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**Seventeenth Biennial
Report**

OF THE

State Engineer

TO THE

Governor of Colorado



For the Years 1913-1914

PART TWO

**DENVER, COLORADO
THE SMITH-BROOKS PRINTING COMPANY, STATE PRINTERS
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HYDROGRAPHIC DATA

The following pages contain descriptions of gaging stations, records of discharge measurements and tables of daily discharges on the various streams for the biennial period. A number of these stations have been maintained in co-operation with the United States Geological Survey, the United States Forest Service and private parties. Credit for this co-operation has been given where due.

The method of computing the run-off is that used by the United States Geological Survey, in order that the records will not differ from the Government records on account of difference in the methods of computing.

The drainage areas have been computed from U. S. Geological Survey topographic sheets, U. S. Forest Atlas or Hayden's Atlas.

The altitudes given are those given for the nearest town and may be in error a few hundred feet, but should be accurate enough to make a comparison of the run-off at various altitudes.

Seepage measurements have been made on the more important streams of the State where possible. The results of these measurements will be found in Volume I with a short discussion of the conditions affecting the results.

ARKANSAS RIVER DRAINAGE

ARKANSAS RIVER AT GRANITE.

Location.—At Granite, in sec. 31, T. 11 S., R. 79 W., below the mouth of Lake Creek and above Lost Canyon and Clear Creeks.

Records Available.—May 1, 1897, to September 10, 1899; April 6, 1910, to November 30, 1914.

Drainage Area.—425 square miles.

Gage.—Automatic recording gage established in 1910; datum of recording gage bears no determined relation to that of the vertical staff gage which was used from 1897 to 1899, and which was located at the highway bridge near the railroad station.

Channel.—Practically permanent.

Discharge Measurements.—Made from car and cable.

Winter Flow.—Ice causes backwater during the winter months and the records are discontinued.

Artificial Control.—The discharge is affected by the operation of the Twin Lakes reservoir.

Diversions.—There are court decrees for diversions of 76 second-feet from the Arkansas between this station and the junction of Tennessee and East Forks, and diversions of 22 second-feet from the intervening tributaries.

Co-operation.—During 1913 and 1914 this station has been maintained in co-operation with the U. S. Geological Survey.

DISCHARGE MEASUREMENTS ON THE ARKANSAS RIVER AT GRANITE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 27*	B. S. Clayton.....		73	May 3	R. H. Fletcher.....	1.51	124
May 20	Raymond Richards..	3.07	988	Aug. 14	M. D. Anderson.....	2.10	287
July 15	R. H. Fletcher.....	2.80	761	Oct. 7	R. H. Fletcher.....	1.79	201
Sept. 19	R. H. Fletcher.....	1.96	256				

*Ice conditions.

ARKANSAS RIVER AT SALIDA.

Location.—At Salida, Colorado, some distance above the mouth of the South Fork of Arkansas River, the nearest tributary of importance.

Records Available.—April 11, 1895, to October 31, 1903; November 3, 1909, to November 30, 1914.

Drainage Area.—1,160 square miles.

Gage.—Automatic recording gage; no determined relation between automatic gage and the gage used from 1895 to 1903.

Channel.—Slightly shifting.

Winter Flow.—Springs keep the river open during the winter months.

Diversions.—There are court decrees for diversions of 148 second-feet from the Arkansas between this station and Granite, and diversions of 380 second-feet from intervening tributaries.

Co-operation.—During 1913 and 1914 this station has been maintained in co-operation with the U. S. Geological Survey.

DISCHARGE MEASUREMENTS ON THE ARKANSAS RIVER AT SALIDA.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 20	B. S. Clayton.....	0.45	220	May 6	R. H. Fletcher.....	0.80	345
Feb. 26	B. S. Clayton.....	0.46	222	Aug. 16	M. D. Anderson.....	1.65	731
Apr. 4	B. S. Clayton.....	0.95	365	Oct. 8	R. H. Fletcher.....	1.09	473
May 16	Robert Follansbee....	2.75	1280	Oct. 22	M. E. Bunker.....	1.10	407
July 16	R. H. Fletcher.....	2.35	1040				
Aug. 26	R. H. Fletcher.....	1.20	459				

ARKANSAS RIVER AT CANON CITY.

Location.—Just below the suspension bridge at Hot Springs Hotel, at the mouth of the canyon, and $1\frac{1}{2}$ miles above Canon City. Nearest important tributary is Grape Creek, which enters above.

Records Available.—May 1, 1888, to November 30, 1914.

Drainage Area.—3,060 square miles.

Gage.—Automatic recording gage established by the State engineer in September, 1909. The river shifted away from this gage early in 1912, and a chain gage reading to the same datum was placed on the opposite side of the river and used during the year. This gage was washed out in 1914. The original Geological Survey gage was established April 17, 1889. On October 4, 1895, a new staff gage was established on the left bank about 100 feet below the original gage and referred to the same datum. At low stages it read 0.4 foot lower than the original gage, but at high stages the readings were the same. On August 26, 1902, a gage was established on the right bank near the first gage and referred to the same datum. The datum of the recording gage now used is 2.00 feet higher than that of the last gage.

Channel.—The channel shifts to such an extent during high water that at times it is necessary to move the gage in order to read the gage heights.

Discharge Measurements.—Made from car and cable.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—There are court decrees for diversions of 131 second-feet from the Arkansas between the stations at Canon City and Salida, and diversions of 2,286 second-feet from intervening tributaries.

DISCHARGE MEASUREMENTS ON THE ARKANSAS RIVER AT
CANON CITY.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 11	B. S. Clayton.....	4.10	297	Jan. 9	B. S. Clayton.....	3.92	328
Feb. 28	B. S. Clayton.....	4.00	330	Apr. 22	M. E. Bunger.....	4.04	376
Apr. 2	B. S. Clayton.....	4.49	508	June 26	M. E. Bunger.....	7.00	2846
May 7	B. S. Clayton.....	4.70	551	Sept. 7	M. E. Bunger.....	4.90	510
May 8	B. S. Clayton.....	5.32	942	Oct. 29	M. E. Bunger.....	4.90	512
June 5	B. S. Clayton.....	5.70	1240				
June 22	B. S. Clayton.....	6.60	1970				
Aug. 4	B. S. Clayton.....	4.08	372				
Oct. 6	B. S. Clayton.....	4.26	421				
Nov. 25	B. S. Clayton.....	4.00	320				

Discharge of Arkansas River at Granite for 1913.
Drainage Area, 425 Square Miles. Altitude, 8,930 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			110	139	365	1600	605	276	220	203	186	82
2.....			110	170	476	1490	640	276	220	220	203	96
3.....			110	170	476	1090	539	238	220	220	220	96
4.....			110	170	365	1000	750	186	220	203	220	
5.....			110	170	365	915	915	170	238	203	154	
6.....			139	139	365	958	872	203	220	186	110	
7.....			139	124	605	1000	830	297	220	186	110	
8.....			124	82	830	750	830	342	238	186	110	
9.....			110	55	872	750	830	297	238	186	124	
10.....			124	55	830	750	915	276	203	203	110	
11.....			139	68	830	915	915	342	186	203	110	
12.....			139	96	1340	712	830	447	203	170	139	
13.....			110	170	1280	915	750	476	186	154	139	
14.....			110	238	1000	830	712	476	203	154	139	
15.....			110	257	830	750	750	447	203	154	124	
16.....			120	238	958	750	572	418	203	124	110	
17.....			130	257	1000	830	418	392	203	124	110	
18.....			139	238	1000	1000	640	392	186	124	124	
19.....			139	238	1040	1180	675	365	186	110	96	
20.....			139	297	1000	1140	539	392	170	110	110	
21.....			139	297	539	1000	476	392	186	124	124	
22.....			139	297	476	750	392	297	170	124	110	
23.....			139	220	539	790	392	203	186	110	82	
24.....			139	186	830	830	605	203	186	124	96	
25.....			139	203	1040	712	539	203	186	124	96	
26.....			139	203	1090	750	508	203	186	124	82	
27.....			139	203	1240	830	447	203	186	110	82	
28.....			139	238	1000	915	392	220	186	96	96	
29.....			139	257	1180	872	365	220	170	82	82	
30.....			139	276	1380	750	318	220	170	110	82	
31.....			139		1490		297	203		139		
Mean.....			129	192	859	917	621	299	199	151	123	
Run-off acre-feet.....			7930	11400	52800	54600	38200	18400	11800	9280	7320	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River at Granite for 1914.
Drainage Area, 425 Square Miles. Altitude, 8,930 Feet Above
Sea Level.

Day	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					120	1700	1090	1090	307	174	174	
2.....					133	1700	958	1000	270	189	146	
3.....					133	1600	1000	830	253	189	146	
4.....					146	1490	1140	705	253	204	133	
5.....					160	1490	1340	554	253	204	133	
6.....					160	1340	1180	518	236	204	133	
7.....					146	1180	1040	518	220	160	133	
8.....					204	1090	915	518	189	174	133	
9.....					349	1000	958	486	160	174	133	
10.....					453	1140	1090	425	146	189	133	
11.....					453	1180	1140	328	160	189	133	
12.....					425	1340	1000	288	174	174	133	
13.....				108	397	1540	915	270	189	160	133	
14.....				133	518	1490	958	307	204	146	120	
15.....				160	665	1600	958	328	204	160	120	
16.....				174	745	1340	958	288	189	160	95	
17.....				146	745	1140	915	270	174	160	95	
18.....				133	788	1180	1000	328	174	146	82	
19.....				120	830	1240	958	486	174	160	108	
20.....				174	915	1240	1000	518	160	160	146	
21.....				204	1240	1140	915	590	220	160	120	
22.....				204	1280	1090	1040	518	220	189	95	
23.....				204	1340	1280	915	590	189	174	95	
24.....				189	1180	1380	830	705	189	189	95	
25.....				204	1280	1490	665	665	204	204	95	
26.....				220	1280	1490	705	590	220	189	95	
27.....				189	1380	1280	872	554	204	174	95	
28.....				133	1340	1240	1180	518	174	174	95	
29.....				133	1180	1180	915	486	174	174	95	
30.....				133	1240	1140	872	328	174	189	95	
31.....					1180		1000	328		189		
Mean.....				164	723	1320	981	514	202	177	118	
Run-off acre-feet.....				5860	44500	78600	60300	31600	12000	10900	7020	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River at Salida for 1913.
Drainage Area, 1,160 Square Miles. Altitude, 7,038 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	242	210	210	350	495	1700	1360	730	400	455	335	279
2.....	220	200	220	350	583	1630	1170	455	400	475	366	279
3.....	254	200	220	320	780	1420	1110	475	417	475	400	279
4.....	254	200	210	279	755	1360	1110	475	400	495	350	266
5.....	231	210	210	266	655	1300	1230	436	400	475	306	279
6.....	220	200	210	292	680	1490	1170	400	382	417	306	279
7.....	231	200	210	306	730	1490	1170	417	366	417	292	266
8.....	242	210	210	292	1050	1420	1170	436	538	436	306	266
9.....	242	220	210	254	995	1490	1170	417	583	436	306	266
10.....	242	200	210	231	995	1560	1170	436	538	400	306	254
11.....	254	200	210	231	940	1700	1170	436	495	400	306	242
12.....	242	191	220		995	1420	1170	560	516	400	320	254
13.....	231	191	220		1490	1490	1050	630	516	417	335	254
14.....	242	191	200		1420	1420	995	630	516	436	335	254
15.....	231	200	200		1170	1360	995	606	516	400	335	254
16.....	231	200	182		1230	1300	995	560	516	366	306	254
17.....	242	200	191		1170	1300	830	516	495	382	292	266
18.....	242	200	210		1230	1420	940	495	516	366	306	254
19.....	231	210	220		1420	1490	1110	560	516	320	306	266
20.....	220	220	220		1170	1490	1050	560	475	320	306	254
21.....	220	220	200		1050	1490	1110	630	495	350	306	242
22.....	231	220	200		830	1490	1110	583	495	350	320	224
23.....	231	220	200	335	940	1420	1050	436	475	350	306	238
24.....	231	210	191	306	1050	1560	1110	475	455	366	306	220
25.....	231	210	182	292	1300	1420	995	495	455	350	306	220
26.....	231	231	182	306	1560	1420	995	455	475	320	306	231
27.....	210	220	182	320	1630	1420	885	417	455	320	320	266
28.....	220	220	191	350	1420	1420	805	436	436	335	320	231
29.....	220		220	350	1420	1560	805	495	436	335	279	222
30.....	220		242	366	1560	1420	805	475	417	320	279	220
31.....	220		279		1560		730	436		335		227
Mean.....	233	207	208	305	1110	1460	1050	502	470	388	316	252
Run-off acre-feet.....	14300	11500	12800	11500	68200	86900	64600	30900	28000	23900	18800	15500

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River at Salida for 1914.
Drainage Area, 1,160 Square Miles. Altitude, 7,038 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	242	266	254	242	328	2720	2080	1840	807	476	455	
2.....	254	254	266	242	315	3350	2000	1690	730	476	455	
3.....	254	242	266	266	300	3020	2000	1690	680	497	435	
4.....	242	254	254	292	315	2920	2340	1690	655	497	435	
5.....	238	254	254	279	315	2520	2340	1490	655	518	435	
6.....	238	254	242	306	345	2160	2160	1400	518	518	435	
7.....	238	281	231	292	345	1620	2080	1340	518	518	415	
8.....	235	242	242	279	345	1540	1840	1280	456	497	395	
9.....	242	254	242	266	475	1400	1690	1150	415	497	395	
10.....	254	254	242	266	680	1540	1690	1030	395	497	395	
11.....	242	254	242	266	755	2000	1690	970	435	476	376	
12.....	242	254	231	279	730	2340	1690	888	476	497	376	
13.....	242	242	242	254	705	2720	1690	834	476	476	395	
14.....	266	242	254	266	805	2920	1840	730	476	415	395	
15.....	266	220	254	292	885	3570	1760	680	456	395	356	
16.....	279	231	279	320	940	3350	1690	655	376	435	327	
17.....	292	231	292	320	885	2720	1840	632	376	415	327	
18.....	279	242	292	320	995	2820	2000	730	376	395	327	
19.....	254	242	266	278	940	2920	2080	807	415	395	318	
20.....	242	242	254	290	1110	2920	2160	888	415	395	276	
21.....	242	254	254	325	1630	2820	2000	970	415	395	276	
22.....	254	254	242	340	1930	2520	2520	888	435	455	318	
23.....	266	231	242	355	1850	2340	2080	834	395	476	300	
24.....	266	231	254	355	1930	2820	1840	1030	395	497	300	
25.....	254	220	231	370	1770	2720	1690	1030	415	497	300	
26.....	254	231	242	370	1630	2520	1760	1030	415	497	318	
27.....	266	231	254	355	1770	2160	1840	1030	395	476	318	
28.....	266	254	254	340	1930	2080	2720	1030	395	476	318	
29.....	231		266	325	1700	2080	2160	1030	415	455	318	
30.....	242		254	345	1770	1920	2000	915	435	455	281	
31.....	254		248		2090		1920	834		476		
Mean.....	253	243	253	303	1050	2500	1970	1070	474	466	367	
Run-off acre-feet.....	15600	13500	15800	18000	64800	149000	121000	65800	28200	28700	21800	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River at Canon City for 1913.
Drainage Area, 3,060 Square Miles. Altitude, 5,363 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	310	380	310	500	410	1840	1150	442	365	410	335	335
2	310	380	310	545	545	1840	1000	365	365	500	335	335
3	310	380	310	545	722	1620	970	335	365	442	365	365
4	310	380	365	460	590	1280	870	350	365	425	425	380
5	310	380	365	365	568	1220	1080	335	335	425	410	395
6	310	380	365	365	590	1340	1110	335	335	425	410	365
7	290	380	365	425	590	1420	1150	335	335	410	365	335
8	290	380	350	425	810	1420	1080	335	365	395	335	365
9	290	380	350	380	970	1500	1190	335	480	395	335	365
10	310	380	350	335	902	1620	1460	335	442	395	335	335
11	310	365	335	335	935	1970	1110	365	442	380	335	310
12	310	365	365	365	1000	1970	1190	365	500	380	335	310
13	335	335	365	425	1340	1880	970	568	442	395	350	310
14	335	335	365	460	1460	1620	870	545	425	395	335	365
15	335	365	310	545	1150	1540	780	545	425	395	335	395
16	335	365	310	522	1150	1580	840	480	442	365	335	395
17	365	365	310	522	1150	1580	810	460	425	365	335	395
18	365	365	310	545	1190	1670	750	460	425	365	335	395
19	365	365	310	522	1260	2060	1040	460	410	335	395	335
20	365	365	310	522	1260	1970	1000	522	380	335	365	395
21	365	365	350	500	1190	1840	1260	722	365	335	335	310
22	365	335	350	500	935	1880	1260	668	365	335	365	310
23	365	335	350	442	840	1750	1110	480	365	335	335	335
24	365	335	350	410	970	1710	1150	395	425	335	335	335
25	380	335	335	380	1340	1670	1080	410	425	335	335	335
26	480	335	335	365	1460	1500	902	395	410	335	365	310
27	380	335	335	365	1710	1420	840	365	380	335	365	425
28	365	335	335	380	1670	1340	750	395	365	335	365	425
29	365		335	395	1500	1420	615	480	395	335	365	365
30	365		410	410	1800	1340	568	410	460	335	335	335
31	380		410		1710		522	380		335		335
Mean	340	361	343	442	1090	1630	983	431	400	375	354	355
Run-off acre-feet	20900	20000	21100	26300	67000	97000	60400	26500	23800	23100	21100	21800

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River at Canon City for 1914.
Drainage Area, 3,060 Square Miles. Altitude, 5,363 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	380	330	342	330	428	2760	2330	2460	755	430	470	
2.....	380	330	355	330	428	3320	2330	4800	728	430	470	
3.....	380	330	368	330	462	3210	2280	2140	620	430	450	
4.....	355	330	368	342	542	3010	2510	2060	595	415	430	
5.....	355	330	342	355	395	2810	2700	1820	595	430	450	
6.....	355	355	355	355	355	2520	2600	1600	572	430	420	
7.....	355	330	355	380	355	2150	2560	1430	510	430	470	
8.....	355	310	355	355	355	1710	2200	1310	470	430	470	
9.....	355	380	355	355	368	1510	2100	1350	490	430	400	
10.....	355	355	355	342	542	1430	1970	1230	490	430	400	
11.....	330	380	355	355	710	1920	1920	1190	470	430	400	
12.....	330	380	355	355	765	2240	2200	1150	450	430	400	
13.....	330	380	355	368	710	2520	2060	1010	450	430	400	
14.....	330	380	355	355	710	2810	2200	1010	470	450	400	
15.....	330	355	355	355	950	3930	2200	940	470	370	400	
16.....	355	380	380	355	1050	4410	2200	908	470	385	400	
17.....	355	355	368	380	1050	3640	2420	845	450	400	430	
18.....	355	355	410	355	982	3480	2650	815	430	415	430	
19.....	355	355	380	330	1060	3480	3050	875	430	400	450	
20.....	380	355	355	330	1120	3370	2940	1010	400	400	400	
21.....	380	330	355	342	1550	3370	2700	1010	400	400	415	
22.....	380	330	355	355	1970	3100	3210	1040	430	450	400	
23.....	355	330	342	355	2020	2800	2840	940	430	490	385	
24.....	355	355	355	355	2150	3000	2510	1040	415	550	385	
25.....	355	330	355	330	2100	3000	2330	1120	415	550	370	
26.....	355	330	355	330	1920	2740	2280	1120	370	572	370	
27.....	355	355	342	342	1920	2460	2460	1010	370	595	370	
28.....	355	330	330	330	2020	2280	3100	975	370	550	370	
29.....	380		330	330	1880	2200	3260	940	370	530	370	
30.....	310		330	355	1840	2200	2840	908	415	490	400	
31.....	330		330		2200		2740	755		470		
Mean.....	354	348	355	348	1130	2780	2510	1320	477	453	413	
Run-off acre-feet.....	21800	19300	21800	20700	69500	165000	154000	81200	28400	27900	24600	

Unless otherwise noted, all discharges are in cubic feet per second

ARKANSAS RIVER AT PUEBLO.

Location.—At Main Street Bridge in Pueblo, 2 miles above the mouth of Fountain Creek, the nearest tributary.

Records Available.—September 19, 1894, to November 30, 1914. From May 1, 1885, to September 30, 1886, a station was maintained at Pueblo by the State engineer; from June 1, 1887, to September 30, 1887, a station was maintained at a point 9 miles above Pueblo; from May 1, 1889, to August 31, 1889, the Geological Survey maintained the station 9 miles above Pueblo.

Drainage Area.—4,600 square miles.

Gage.—An automatic gage located 150 feet below Main Street Bridge has been used since March 22, 1911. It is referred to the same datum as the chain gage on the Main Street Bridge, which was installed July 7, 1905, but the slope of the river between the two points causes differences in readings. A vertical staff placed at the Santa Fe Avenue Bridge on September 19, 1894, was used until July 10, 1898, when a second gage was placed at Main Street Bridge, and used until March 3, 1900. From that date until July 14, 1902, a vertical staff near the Union Avenue Bridge was used. From that date until July 7, 1905, when the present gage was placed in position, a staff gage referred to a different datum was used.

Channel.—The channel shifts to such an extent during high water that it has been necessary to move the gage in order to read the gage heights.

Discharge Measurements.—Made from Main Street Bridge.

Winter Flow.—Ice causes some slight backwater during the winter months.

Diversions.—There are court decrees for diversions of 637 second-feet from Arkansas River, between the station at Canon City and Pueblo, and diversions of 372 second-feet from intervening tributaries.

Co-operation.—This station is maintained in co-operation with the Arkansas Valley Ditch Association.

DISCHARGE MEASUREMENTS ON THE ARKANSAS RIVER AT PUEBLO.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
Jan. 31	B. S. Clayton	2.12	283	Jan. 7	B. S. Clayton	2.40	389
Feb. 23	B. S. Clayton	2.10	312	Apr. 14	M. E. Bunger	2.42	476
Mch. 17	B. S. Clayton	1.77	146	May 14	M. E. Bunger	3.05	853
May 8	C. L. Patterson	2.49	618	May 27	M. E. Bunger	4.10	1856
May 9	C. L. Patterson	3.13	1105	June 1	C. L. Patterson	5.30	3183
June 2	B. S. Clayton	4.00	1880	June 25	M. E. Bunger	4.94	3102
June 20	B. S. Clayton	4.00	1692	Aug. 18	H. E. Turner	2.92	666
July 7	B. S. Clayton	3.21	942	Sept. 11	M. E. Bunger	2.62	499
July 31	B. S. Clayton	2.55	554	Oct. 14	M. E. Bunger	2.65	523

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Aug. 6	C. L. Patterson.....	2.15	278	Oct. 31	M. E. Bunger.....	2.87	599
Aug. 12	A. A. Weiland.....	1.99	228	Nov. 4	M. E. Bunger.....	2.63	464
Aug. 13	C. L. Patterson.....	2.40	383				
Aug. 23	B. S. Clayton.....	2.46	445				
Oct. 7	B. S. Clayton.....	2.40	421				
Nov. 12	Clayton & Thomson..	2.10	245				

ARKANSAS RIVER NEAR NEPESTA

Location.—At the dam of the Oxford Farmers' Canal Co., in sec. 31, T. 21 S., R. 60 W. $1\frac{1}{2}$ miles above Nepesta; about 6 miles below the mouth of Huerfano River, the nearest important tributary.

Records Available.—September 8, 1897, to October 31, 1903; July 14, 1909, to November 30, 1912; January 1, to November 30, 1914.

Drainage Area.—9,130 square miles.

Gage.—An automatic recording gage with its zero coinciding with the lowest point of the diversion dam has been in use since 1910. There is no known relation between the present gage and that used in 1903.

Channel.—The diversion dam is the control point, and as the results show shifting conditions it is evident that the dam is not permanent.

Discharge Measurements.—Made from the bridge at Nepesta except during low water, when measurements are made by wading. Between the gage and the measuring section is a wasteway from the canal. The flow at this point is subtracted from the flow at the bridge in order to show the amount of water flowing over the dam.

Winter Flow.—Ice causes backwater during a portion of the winter months.

Diversions.—There are court decrees for diversions of 1,552 second-feet from the Arkansas between Pueblo and Nepesta, and approximately 1,600 second-feet from intervening tributaries. The discharge records given in this report do not include the flow of the canal.

Accuracy.—The channel was so shifting in character during 1913 that no daily discharges have been computed. The results for 1914 are considered fair.

Co-operation.—Maintained in co-operation with the Arkansas Valley Ditch Association.

DISCHARGE MEASUREMENTS OF ARKANSAS RIVER NEAR NEPESTA.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 3	B. S. Clayton.....	0.25	257	Feb. 2	C. L. Patterson.....	1.20	486
Apr. 5	B. S. Clayton.....	0.39	267	May 5	C. L. Patterson.....	1.70	1030
June 6	B. S. Clayton.....	1.22	1040	May 23	M. E. Bungler.....	2.46	3038
June 21	B. S. Clayton.....	1.88	1790	June 2	M. E. Bungler.....	3.70	7200
June 30	B. S. Clayton.....	1.47	1200	June 6	C. L. Patterson.....	2.80	4670
July 9	B. S. Clayton.....	1.00	487	June 9	M. E. Bungler.....	1.50	1890
July 16	C. L. Patterson.....	0.75	303	July 17	M. E. Bungler.....	1.38	1523
July 30	B. S. Clayton.....	1.20	541	Aug. 19	H. E. Turner.....	1.53	1283
Aug. 6	B. S. Clayton.....	0.70	209	Aug. 21	M. E. Bungler.....	0.95	615
Aug. 18	B. S. Clayton.....	0.45	128	Sept. 17	M. E. Bungler.....	0.65	328

ARKANSAS RIVER AT LA JUNTA.

Location.—Half a mile below the east bridge at La Junta; no important tributary within several miles.

Records Available.—April 11, 1912, to November 30, 1914. From December 5, 1893, to December 31, 1895, a station was maintained near the city pumping plant. During 1899 and 1901 a station was maintained at the head of the Fort Lyon Canal by the Great Plains Water Co. From April 7, 1903, to October 31, 1903, a station was maintained 1 mile east of La Junta and a number of discharge measurements were made during 1904. From August 27, 1908, to November 30, 1908, a station was maintained half a mile northwest of La Junta, just below the mouth of Crooked Arroyo.

Drainage Area.—12,200 square miles.

Gage.—Automatic recording gage.

Channel.—Shifting.

Discharge Measurements.—Made from the bridge during high water and by wading at ordinary stages.

Winter Flow.—No data.

Diversions.—There are court decrees for diversions of 2,735 second-feet from the Arkansas between Nepesta and La Junta, and 511 second-feet from intervening tributaries.

Co-operation.—Station maintained in co-operation with the Arkansas Valley Ditch Association.

SEVENTEENTH BIENNIAL REPORT

DISCHARGE MEASUREMENTS ON THE ARKANSAS RIVER AT
LA JUNTA.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 6	B. S. Clayton	2.15	50	Jan. 26	C. L. Patterson	0.90	34.6
Mar. 4	B. S. Clayton	0.88	25	May 5	C. L. Patterson	0.82	53.6
Apr. 5	B. S. Clayton	1.63	109	June 9	C. L. Patterson	2.40	528
Apr. 21	C. L. Patterson	2.00	209	Aug. 27	H. E. Turner	2.55	289
May 1	C. L. Patterson	0.80	25.7	Sept. 1	H. E. Turner	2.53	248
June 4	B. S. Clayton	1.95	301	Sept. 9	H. E. Turner	2.45	151
June 24	B. S. Clayton	2.12	355	Sept. 16	M. E. Bunger	2.45	130
July 1	B. S. Clayton	2.28	498	Sept. 21	H. E. Turner	2.46	146
July 10	B. S. Clayton	1.70	162				
July 30	C. L. Patterson	2.18	362				
Aug. 7	C. L. Patterson	1.10	46.3				
Nov. 8	B. S. Clayton	1.60	153				

Discharge of Arkansas River at Pueblo for 1913.
Drainage Area, 4,600 Square Miles. Altitude, 4,665 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	260	290	320	455	260	1840	1120	375	300	350	280	300
2.....	260	260	320	490	290	1880	950	350	260	428	225	325
3.....	260	260	290	455	455	1510	950	280	280	428	350	400
4.....	260	385	290	385	760	1320	795	260	300	428	428	428
5.....	205	385	290	385	600	1270	720	280	280	375	428	455
6.....	205	420	260	385	525	1170	950	260	260	400	400	455
7.....	205	385	290	320	525	1290	950	225	280	350	400	455
8.....	205	385	205	385	525	1370	950	195	260	325	400	455
9.....	205	420	205	385	1080	1360	950	195	300	400	400	455
10.....	250	455	205	320	960	1620	1350	195	400	350	325	400
11.....	300	385	260	290	1000	1670	1120	195	455	325	300	350
12.....	300	385	320	260	1000	1820	992	225	515	400	300	350
13.....	275	352	290	290	1130	1360	910	350	455	375	242	400
14.....	300	320	320	420	1560	1400	832	400	400	375	280	350
15.....	400	320	232	490	1340	1390	758	428	455	400	300	350
16.....	400	232	155	562	1080	1340	720	428	455	375	300	375
17.....	350	290	110	562	1170	1320	795	375	428	375	300	428
18.....	280	260	110	525	1170	1530	992	400	400	350	300	455
19.....	300	320	180	562	1260	1700	1120	400	350	375	260	485
20.....	300	260	205	525	1300	1740	832	515	350	350	300	485
21.....	280	260	205	525	1210	1690	795	548	350	350	280	428
22.....	280	260	205	455	1080	1740	1080	795	350	350	300	350
23.....	300	260	205	420	840	1690	1990	400	350	350	300	350
24.....	300	290	260	385	880	1540	1640	400	428	350	280	400
25.....	300	385	110	290	1080	1490	1040	375	400	375	280	350
26.....	260	385	180	260	1300	1300	795	325	375	350	300	350
27.....	250	320	205	260	1480	1160	910	300	375	350	300	325
28.....	275	320	205	260	1700	1160	870	300	375	300	300	325
29.....	270		180	260	1480	832	650	350	400	260	280	300
30.....	280		205	260	1660	1300	548	350	375	300	300	300
31.....	280		260		1880		455	300		260		300
Mean.....	277	330	228	391	1050	1460	953	348	365	359	315	385
Run-off acre-feet.....	17000	18300	14000	23300	64600	86900	58600	21400	21700	22100	18700	23700

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River at Pueblo for 1914.
Drainage Area, 4,600 Square Miles. Altitude, 4,665 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	395	345	375	360	1590	3440	1640	5300	720	395	528	
2.....	395	345	390	345	1300	3960	1930	3740	790	395	450	
3.....	395	345	390	360	980	4200	2120	6720	720	418	450	
4.....	395	345	390	408	895	3900	2480	4610	625	418	450	
5.....	395	345	390	408	718	3500	2870	3740	595	440	450	
6.....	395	360	390	465	625	3020	2480	2810	595	465	428	
7.....	395	330	375	465	565	2720	3220	2480	655	465	406	
8.....	378	330	390	490	565	2108	2120	2240	568	490	385	
9.....	360	360	390	465	595	1950	1930	2030	595	418	365	
10.....	360	360	390	425	685	1690	1640	2100	595	440	385	
11.....	330	360	390	425	895	1860	1640	1770	490	540	475	
12.....	300	360	375	465	1160	2790	2080	1480	440	515	450	
13.....	300	360	375	490	980	2870	2400	1480	440	490	450	
14.....	300	355	375	515	858	3220	4700	1260	540	540	450	
15.....	320	355	375	490	895	4000	2330	990	515	540	450	
16.....	320	360	390	465	1250	6060	2120	870	490	470	450	
17.....	320	350	390	465	1250	4860	3480	830	490	470	450	
18.....	340	350	408	515	1390	4260	3220	720	490	470	450	
19.....	340	340	425	515	1250	3920	3830	625	440	520	500	
20.....	360	340	408	490	1250	3660	3830	720	440	520	450	
21.....	330	335	390	445	1440	3660	3390	720	440	550	450	
22.....	315	395	375	465	2060	3390	3390	790	395	550	450	
23.....	330	395	360	490	2270	3040	4610	950	440	690	450	
24.....	345	335	375	465	2320	2710	3220	910	440	760	428	
25.....	330	350	390	465	2490	3040	2790	1030	395	660	428	
26.....	330	330	390	408	2110	2870	2870	1030	395	750	385	
27.....	345	355	375	465	1950	2400	3040	1080	395	790	365	
28.....	345	355	375	465	2380	2260	5130	1030	378	660	406	
29.....	360		375	465	2380	1860	4700	950	360	620	385	
30.....	330		375	895	1950	1750	4180	910	395	620	365	
31.....	315		390		2220		6470	870		555		
Mean.....	347	352	386	468	1400	3170	3000	1830	509	536	418	
Run-off acre-feet.....	21200	19500	23700	27800	86100	189000	184000	113000	30300	33000	24900	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River near Nepesta for 1914.
Drainage Area, 9,130 Square Miles. Altitude, 4,396 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	300	570	255	210	5300	7200	1980	5570	860	411	680	
2.....	500	402	210	202	2930	0960	2020	4860	860	411	630	
3.....	500	390	210	186	1180	7110	1960	6830	840	366	600	
4.....	500	434	275	174	940	6600	2190	5900	730	374	580	
5.....	500	390	255	174	1030	5600	2380	4640	660	475	531	
6.....	450	360	250	260	780	4410	3320	3050	620	494	484	
7.....	450	402	255	554	780	3430	2070	2330	730	465	456	
8.....	450	469	265	330	725	2380	1920	2400	650	420	465	
9.....	400	530	222	295	725	1890	1730	1720	750	393	475	
10.....	375	420	222	324	900	1820	1550	2800	750	366	465	
11.....	375	408	250	420	1180	1760	1480	2010	670	384	560	
12.....	350	342	250	441	1180	2060	1570	1450	630	456	630	
13.....	400	300	255	378	758	3090	1730	1100	580	484	580	
14.....	425	250	265	390	758	2750	2050	920	550	512	570	
15.....	450	170	255	372	1030	6160	3320	750	550	531	590	
16.....	300	198	238	420	940	7300	1980	600	540	411	600	
17.....	350	202	250	420	900	7110	2060	920	366	402	660	
18.....	325	170	265	490	4580	4230	2640	960	366	366	670	
19.....	325	30	306	420	2100	3550	3200	1100	358	475	560	
20.....	385	300	360	420	1570	3550	3710	800	310	503	512	
21.....	390	202	378	408	1900	3460	3550	800	286	465	475	
22.....	330	214	408	360	7890	3660	3060	630	306	475	512	
23.....	300	360	330	390	3170	2970	4480	670	342	660	531	
24.....	342	265	250	408	2800	2270	2840	730	393	1080	475	
25.....	348	115	230	792	3120	2510	4080	750	375	860	375	
26.....	378	34	290	408	2990	2510	2700	730	326	650	375	
27.....	455	138	270	420	1950	2020	2370	750	366	700	326	
28.....	348	265	255	441	3700	1690	3640	800	374	772	366	
29.....	360		238	434	3170	1640	3870	900	390	838	366	
30.....	506		210	840	2870	1960	3970	780	374	730	374	
31.....	490		210		2520		4390	770		730		
Mean.....	399	298	264	393	2040	3790	2700	1900	530	537	518	
Run-off acre-feet.....	24500	16600	16200	23400	125000	226000	166000	117000	31800	33000	30800	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River at La Junta for 1913.
Drainage Area, 12,200 Square Miles. Altitude, 4,052 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	34	117	57	79	21	430	430	115	40	190	150	126
2.....	30	61	45	52	38	525	400	92	34	187	132	135
3.....	35	60	63	65	50	430	372	54	35	198	110	138
4.....	33	59	60	167	42	341	372	27	32	242	103	126
5.....	28	50	35	154	46	478	274	19	18	229	187	80
6.....	22	50	30	111	63	704	174	14	26	176	242	42
7.....	30	50	35	111	42	362	184	46	34	153	229	88
8.....	31	50	35	79	41	77	66	46	34	166	210	63
9.....	32	50	30	133	47	191	52	40	34	147	144	47
10.....	33	50	22	120	59	442	133	34	34	166	213	34
11.....	38	50	18	202	44	454	202	34	34	135	238	73
12.....	51	84	11	120	38	167	224	35	49	115	220	209
13.....	68	59	10	130	50	102	184	38	84	68	120	150
14.....	51	45	12	125	128	79	130	35	106	70	101	33
15.....	50	37	110	130	279	68	56	57	74	138	96	27
16.....	70	32	184	130	367	52	37	40	80	166	120	38
17.....	91	31	221	217	288	384	35	64	86	138	157	44
18.....	77	27	88	306	145	395	389	82	86	166	96	82
19.....	55	25	33	341	246	407	173	49	92	138	135	90
20.....	28	25	28	320	246	490	46	49	76	120	141	82
21.....	46	26	30	320	297	217	63	35	84	123	126	106
22.....	46	16	38	311	279	194	194	89	70	123	98	100
23.....	75	58	30	302	224	356	293	224	57	118	106	40
24.....	24	58	18	240	139	330	564	49	60	118	106	50
25.....	44	58	21	209	70	672	400	42	80	120	120	50
26.....	139	79	95	198	93	537	132	53	135	129	120	30
27.....	37	82	33	40	384	384	255	31	147	166	101	25
28.....	51	63	46	40	600	407	364	34	153	150	51	20
29.....	58		41	30	504	466	341	38	176	170	44	15
30.....	120		37	24	454	442	312	36	176	138	106	15
31.....	202		63		504		176	45		144		15
Mean.....	55.8	51.9	50.9	153	188	353	227	53.1	74.2	149	134	70.1
Run-off acre-feet.....	3420	2870	3130	9100	11500	21000	13900	3260	4410	9120	8000	4300

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River at La Junta for 1914.
Drainage Area, 12,200 Square Miles. Altitude, 4,052 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	*15	50	50	60	3400	840	870	2990	284	87	118	
2.....	25	37	120	70	3180	5100	630	2500	129	220	79	
3.....	25	31	198	84	165	4800	670	3040	297	87	66	
4.....	25	50	209	26	66	4800	670	3420	263	52	104	
5.....	25	75	203	23	46	4650	925	2475	128	134	342	
6.....	25	84	238	60	46	3450	925	1880	139	195	292	
7.....	25	227	191	148	32	2255	550	1175	192	195	86	
8.....	*25	195	88	186	52	1230	72	600	185	116	116	
9.....	37	109	23	166	59	585	115	353	178	132	82	
10.....	31	75	16	206	24	125	340	397	151	132	140	
11.....	25	58	20	228	94	65	510	291	166	132	98	
12.....	25	50	36	250	150	250	510	148	162	116	86	
13.....	25	58	36	228	214	660	550	163	91	170	86	
14.....	25	116	26	186	138	1810	770	180	88	220	76	
15.....	37	158	23	206	126	5910	239	80	75	316	76	
16.....	84	158	84	206	214	14160	405	57	96	264	110	
17.....	37	105	114	228	75	8480	310	158	98	300	140	
18.....	37	66	186	250	104	6620	870	182	75	227	110	
19.....	84	66	166	277	2550	4400	3950	172	44	188	66	
20.....	84	66	166	250	75	2400	2074	123	38	123	76	
21.....	143	58	250	206	59	2300	1875	94	133	251	66	
22.....	43	58	186	98	2180	1610	970	96	31	406	66	
23.....	37	125	206	148	3180	720	2740	75	20	406	76	
24.....	37	50	186	186	975	340	1900	62	20	313	174	
25.....	84	94	130	166	470	182	1810	125	20	90	76	
26.....	43	84	114	166	670	239	1110	150	27	104	66	
27.....	37	37	70	186	420	167	890	225	34	188	98	
28.....	37	58	31	130	2180	152	890	260	34	134	110	
29.....	37		60	342	1310	218	1900	293	34	48	86	
30.....	25		98	360	1850	870	1730	346	43	169	86	
31.....	158		130		930		1300	362		118		
Mean.....	45.2	87.8	118	178	808	2650	1070	719	109	182	108	
Run-off acre-feet.....	2780	4880	7260	10600	49700	158000	65800	44200	6490	11200	6430	

Unless otherwise noted, all discharges are in cubic feet per second. *Discharge estimated.

ARKANSAS RIVER AT LAMAR.

Location.—Located at Highway Bridge one mile north of Lamar.

Records Available.—May 11, 1913, to November 30, 1914.

Gage.—Bristol automatic gage and standard chain gage.

Channel.—Shifting.

Diversions.—With the exception of a few small ditches, below all diversions on the river.

Accuracy.—Results are considered fair.

Co-operation.—Maintained in co-operation with the Arkansas Valley Ditch Association.

DISCHARGE MEASUREMENTS ON THE ARKANSAS RIVER AT LAMAR.

Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 4	S. W. Cressy.....	4.50	6894	June 20	S. W. Cressy.....	4.40	4006
May 4	S. W. Cressy.....	3.95	5006	June 21	S. W. Cressy.....	4.06	3179
May 6	S. W. Cressy.....	2.79	2130	June 22	S. W. Cressy.....	3.95	3076
May 7	S. W. Cressy.....	2.40	1614	June 23	S. W. Cressy.....	3.92	2949
May 8	S. W. Cressy.....	1.65	734	June 24	S. W. Cressy.....	3.06	1521
May 9	S. W. Cressy.....	1.17	458	June 25	S. W. Cressy.....	2.40	878
May 10	S. W. Cressy.....	0.98	315	June 30	S. W. Cressy.....	0.90	36
May 11	S. W. Cressy.....	0.83	295	Aug. 29	H. E. Turner.....	0.22	5
May 13	S. W. Cressy.....	1.03	270	Sept. 21	H. E. Turner.....	0.15	4.8
June 9	C. L. Patterson.....	3.10	956	Nov. 11	S. W. Cressy.....		39
June 17	S. W. Cressy.....	6.12	8940	Nov. 18	S. W. Cressy.....		108
June 18	S. W. Cressy.....	5.35	6237	Nov. 22	S. W. Cressy.....		104
June 19	S. W. Cressy.....	5.06	5211	Nov. 23	S. W. Cressy.....		103

ARKANSAS RIVER AT HOLLY.

Location.—At highway bridge half a mile southeast of Holly, on line between secs. 14 and 15, T. 23 S., R. 42 W., 1 mile below the mouth of Wild Horse Creek, an intermittent stream.

Records Available.—October 15, 1907, to November 30, 1914.

Drainage Area.—Approximately 25,000 square miles.

Gage.—A number of gages have been used at the station, but all readings have been referred to the same datum except those from October 25 to December 31, 1911, when a different datum was used.

Channel.—Very shifting.

Discharge Measurements.—Made from bridge during high water and by wading at low stages.

Winter Flow.—Ice causes backwater during a portion of the winter months.

Diversions.—There are court decrees for diversions of 1,072 second-feet from Arkansas River between the stations at La Junta and Holly, and diversions of 1,253 second-feet from intervening tributaries. There are many diversions from Arkansas River below Holly, in Kansas.

Co-operation.—Station maintained in co-operation with the Arkansas Valley Ditch Association.

DISCHARGE MEASUREMENTS ON THE ARKANSAS RIVER AT HOLLY.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Mar. 13	B. S. Clayton.....	2.53	167	Jan. 27	C. L. Patterson.....	2.50	256
Apr. 26	C. L. Patterson.....	2.04	29.3	May 5	S. W. Cressy.....	3.80	3542
June 14	C. L. Patterson.....	3.20	1137	May 6	M. E. Bunger.....	3.35	2247
June 15	C. L. Patterson.....	2.77	434	May 8	S. W. Cressy.....	2.90	1397
July 20	C. L. Patterson.....	2.88	409	May 9	S. W. Cressy.....	2.60	1032
July 21	C. L. Patterson.....	2.73	310	May 10	S. W. Cressy.....	2.40	684
				May 12	S. W. Cressy.....	2.19	378
				June 10	C. L. Patterson.....	3.07	1100
				June 17	S. W. Cressy.....	5.65	8790
				June 18	M. E. Bunger.....	5.25	8684
				June 19	S. W. Cressy.....	4.98	5250
				June 20	S. W. Cressy.....	4.70	3955
				June 23	S. W. Cressy.....	4.27	2672
				June 24	S. W. Cressy.....	3.69	1626
				June 30	S. W. Cressy.....	2.20	156
				Aug. 28	H. E. Turner.....	1.62	19.6
				Sept. 19	H. E. Turner.....	1.52	6.2
				Nov. 11	M. E. Bunger.....	1.95	63.6
				Nov. 18	S. W. Cressy.....	2.27	99
				Nov. 23	S. W. Cressy.....	2.47	146
				Nov. 25	S. W. Cressy.....	2.31	103
				Nov. 27	S. W. Cressy.....	2.25	98
				Nov. 28	H. E. Turner.....	2.07	64

EAST FORK OF ARKANSAS RIVER NEAR LEADVILLE.

Location.—At highway bridge in sec. 16, T. 9 S., R. 80 W., about 300 yards above mouth of Tennessee Fork, 3 miles northwest of Leadville.

Records Available.—April to August 31, 1890; June 18 to September 29, 1903; June 5, 1911, to November 30, 1914.

Drainage Area.—52 square miles.

Gage.—Vertical staff.

Channel.—Somewhat shifting.

Discharge Measurements.—Made from bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—There is a court decree for a diversion of 2 second-feet from the East Fork above the station, but none below.

Accuracy.—Owing to the high altitude of the drainage basin, it is probable that the stage is subject to considerable diurnal fluctuation at certain seasons, due to the alternate melting and freezing. Mean daily gage heights based on one reading per day are therefore liable to considerable error. Estimates have only been made for the days on which the gage was read, and can only be considered fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON EAST FORK OF ARKANSAS RIVER NEAR LEADVILLE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 20	Raymond Richards...	0.53	62	May 4	R. H. Fletcher.....	0.12	12
June 22	R. H. Fletcher.....	0.70	97	June 9	Robert Follansbee....	1.03	203
Sept. 8	R. H. Fletcher.....	0.45	46	Aug. 13	M. D. Anderson.....	0.41	34
Oct. 14	Robert Follansbee ...	0.21	15	Oct. 6	R. H. Fletcher.....	0.22	14

Discharge of Arkansas River at Lamar for 1913.
Drainage Area, — Square Miles. Altitude, 3,610 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						1	119	1	2	3	2	2
2.....						9	5	2	2	2	3	4
3.....						24	18	2	2	3	2	3
4.....						9	5	2	2	3	2	21
5.....						4	3	2	2	2	2	12
6.....						4	2	1	2	1	2	2
7.....						394	2	2	2	2	2	2
8.....						232	2	3	2	2	2	8
9.....						5	2	3	1	2	3	10
10.....						3	2	2	2	2	2	4
11.....					1	4	2	3	1	2	3	3
12.....					1	25	2	2	2	2	2	5
13.....					1	1070	2	1	3	2	2	30
14.....					2	810	2	2	2	2	2	140
15.....					2	78	1	3	2	2	2	187
16.....					2	7	1	4	3	2	2	187
17.....					2	3	1	2	2	2	2	144
18.....					2	2	1	2	2	2	2	144
19.....					1	2	20	2	1	2	2	126
20.....					1	3	50	2	1	2	2	126
21.....					1	9	14	2	2	3	2	133
22.....					1	11	6	2	2	2	2	126
23.....					1	1	3	2	2	2	2	148
24.....					1	1	9	2	1	3	2	140
25.....					1	0	58	2	2	2	2	169
26.....					1	0	148	2	2	1	1	122
27.....					1	2	9	2	2	1	2	140
28.....					1	2	2	2	2	1	2	157
29.....					0	1	3	2	2	1	2	140
30.....					0	3	1	3	2	1	2	140
31.....					0		1	2		2		161
Mean.....					1.1	121	19.5	2.2	1.9	2.0	2.1	88.3
Run-off acre-feet.....					45	7200	1000	131	113	121	123	5420

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River at Lamar for 1914.
Drainage Area, — Square Miles. Altitude, 3,610 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	205	60	*10	0	14000	1700	79	2210	2	3	4	
2.....	140	120	10	0	17800	4680	119	3580	2	2	4	
3.....	140	74	*10	0	10500	5920	90	3780	2	3	5	
4.....	160	120	0	0	5780	6150	4	4780	2	2	6	
5.....	205	57	0	0	3500	5220	1770	4110	2	2	3	
6.....	93	47	0	0	2190	3760	350	3100	2	3	16	
7.....	93	67	0	0	1580	2450	170	2370	2	4	8	
8.....	93	176	0	0	735	1950	103	1240	2	4	4	
9.....	70	148	0	0	458	1270	30	1000	2	2	4	
10.....	70	74	0	0	315	630	12	1000	2	2	4	
11.....	70	176	0	0	295	595	14	570	2	2	4	
12.....	80	97	0	0	200	630	12	535	144	2	16	
13.....	93	94	0	0	270	460	4	338	54	3	54	
14.....	98	97	0	0	165	1340	4	174	8	4	82	
15.....	93	97	0	0	115	1760	4	500	6	6	54	
16.....	111	189	0	0	76	9960	36	242	5	13	34	
17.....	180	*20	0	0	15	8240	18	62	4	16	40	
18.....	160	15	0	0	15	6510	410	29	3	6	104	
19.....	148	15	0	0	70	4900	5420	20	4	4	130	
20.....	180	15	0	0	380	3540	5420	10	4	4	190	
21.....	123	15	0	0	500	3210	4900	20	3	4	130	
22.....	140	15	0	0	4450	2870	3190	8	3	6	104	
23.....	205	10	0	0	7320	2750	4900	5	2	6	104	
24.....	180	20	0	0	2850	1430	6760	4	2	117	72	
25.....	123	30	0	0	1420	695	5420	4	5	174	46	
26.....	106	35	0	0	915	350	4110	3	4	46	20	
27.....	475	25	0	0	843	146	3800	3	4	62	24	
28.....	40	*20	0	0	2530	90	2550	4	4	34	16	
29.....	74		0	0	4210	50	3100	4	4	10	16	
30.....	97		0	*30	2830	36	3380	0	3	6	10	
31.....	40		0		2780		2640	2		4		
Mean.....	132	68.1	1.0	1.0	2870	2780	1870	958	9.6	17.8	43.6	
Run-off acre-feet.....	8120	3780	61	60	176000	165000	115000	58900	5710	1090	2890	

Unless otherwise noted, all discharges are in cubic feet per second.

*Estimated.

Discharge of Arkansas River at Holly for 1913.
Drainage Area, 25,000 Square Miles. Altitude, 3,387 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	340	340	204	72	4	8	65	24	13	24	13	40
2.....	450	340	302	72	4	8	95	18	13	24	13	40
3.....	450	340	204	40	4	8	80	24	13	24	13	40
4.....	450	302	340	263	8	6	85	24	13	24	13	40
5.....	522	263	395	60	7	6	95	24	13	13	13	263
6.....	595	302	395	50	8	6	80	24	13	13	13	118
7.....	595	302	302	40	8	6	65	24	13	13	13	125
8.....	595	340	234	85	7	340	65	32	13	13	13	125
9.....	595	450	180	13	8	118	65	32	13	13	24	125
10.....	595	595	157	18	8	24	65	13	13	13	24	125
11.....	595	595	157	13	4	24	65	13	13	13	24	180
12.....	595	522	157	24	4	24	65	13	13	13	24	125
13.....	595	450	157	6	4	263	65	13	13	13	24	125
14.....	595	340	204	6	4	2140	65	13	13	13	24	200
15.....	595	395	234	5	4	475	65	13	13	13	24	325
16.....	595	395	157	4	4	230	65	13	13	13	24	300
17.....	595	450	522	4	4	120	65	13	13	13	24	350
18.....	595	450	395	4	6	85	65	10	13	13	24	250
19.....	595	450	157	4	5	95	7000	13	13	13	24	250
20.....	522	450	302	3	6	95	302	18	13	13	24	225
21.....	450	450	340	3	6	80	263	24	13	13	24	150
22.....	450	395	263	13	6	65	157	24	13	13	24	150
23.....	450	395	263	24	6	65	85	18	18	13	24	175
24.....	450	340	157	40	6	65	60	13	13	13	24	150
25.....	340	450	118	60	6	65	60	13	13	13	24	150
26.....	340	450	157	24	6	65	138	13	13	13	24	250
27.....	340	1360	157	5	8	65	157	13	13	13	24	175
28.....	395	522	118	5	6	65	102	13	24	13	24	175
29.....	450		118	4	6	65	60	13	24	13	24	200
30.....	395		118	3	6	65	60	13	24	13	40	200
31.....	340		118		6		138	13		13		200
Mean.....	499	444	228	32.1	5.8	158	318	17.5	14	14.4	22.4	172
Run-off acre-feet.....	30700	24700	14000	1910	357	9400	19600	1080	833	885	1330	10600

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Arkansas River at Holly for 1914.
Drainage Area, 25,000 Square Miles. Altitude, 3,387 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	285	144	114	38	7080	1910	160	1680	20	6	64	
2.....	220	129	135	38	18000	3240	165	1500	22	8	64	
3.....	220	113	144	38	11200	5340	156	1400	27	5	55	
4.....	240	106	129	38	8600	6650	152	1900	34	6	51	
5.....	280	92	125	38	3540	5580	134	5400	27	4	57	
6.....	170	92	158	38	2600	5110	1500	3330	24	4	79	
7.....	170	92	106	38	1600	4000	500	2280	29	5	58	
8.....	170	144	56	38	1210	3320	300	1520	20	3	43	
9.....	224	205	56	38	900	1310	175	1440	18	4	23	
10.....	224	198	78	38	750	1000	75	1360	22	5	18	
11.....	237	182	84	38	570	890	78	1150	24	2	18	
12.....	243	144	56	38	430	730	50	790	22	2	20	
13.....	243	144	56	38	282	490	50	865	82	2	22	
14.....	256	163	60	38	233	600	30	524	74	4	71	
15.....	249	205	38	38	225	4920	30	400	66	2	172	
16.....	256	224	38	38	176	10600	25	1200	77	2	124	
17.....	237	243	45	38	136	9100	25	145	66	2	136	
18.....	224	224	38	38	84	6240	25	122	30	4	188	
19.....	224	192	38	38	300	5240	5000	154	9	6	212	
20.....	224	224	38	38	1000	4450	5500	120	8	4	180	
21.....	243	178	38	38	440	3960	5000	116	6	4	160	
22.....	249	110	38	38	1530	3270	3100	90	8	18	112	
23.....	263	106	38	38	6650	3000	5000	85	6	77	104	
24.....	271	133	38	38	3210	1940	6800	79	6	200	90	
25.....	256	187	38	38	2610	910	5500	58	6	538	79	
26.....	243	182	38	38	1810	566	4000	44	6	870	74	
27.....	237	144	38	38	1200	384	3000	44	8	260	74	
28.....	192	125	38	38	1790	258	2150	28	12	180	69	
29.....	192		38	38	3180	238	2370	18	6	192	61	
30.....	168		38	125	2820	192	1490	14	7	128	61	
31.....	144		38		2800		1570	16		87		
Mean.....	228	158	64.8	40.9	2700	3180	1580	891	25.7	64.0	84.6	
Run-off acre-feet.....	14000	8780	3980	2430	166000	189000	97200	54800	1530	3940	5030	

Unless otherwise noted, all discharges are in cubic feet per second.

**Discharge of East Fork of Arkansas River near Leadville, Colo.,
for 1913.**
**Drainage Area, 52 Square Miles. Altitude, 10,000 Feet Above Sea
Level.**

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						125	68	25	25	19	6	
2.....						125	68	25	25	19		
3.....						125	68	25	25	19		
4.....						125	61	25	25	19		
5.....						120	61	23	25	13	10	
6.....						112	61	23	32	13	13	
7.....						112	61	19	28	13		
8.....						100	57	19	54	13	4	
9.....						100	78	19	48	13		
10.....					19	89	39	19	48	13		
11.....						120	74	23	40	13		
12.....						105	54	23	32	13		
13.....						100	57	23	32	13	10	
14.....						100	68	19	25	13	6	
15.....						105	54	13	25	13		
16.....					40	105	68	13	25	13		
17.....						105	54	13	25	13		
18.....						130	57	13	25	13		
19.....						105	54	13	25	10		
20.....					63	120	57	25	25	10		
21.....						105	57	25	25	10		
22.....						100	57	25	19	10		
23.....					89	96	74	25	19	10		
24.....						96	68	25	19	10		
25.....					156	82	48	25	19	10		
26.....						89	43	25	19	10		
27.....						96	57	25	19	10		
28.....						89	54	25	19	10		
29.....						96	40	25	19	10		
30.....						74	32	25	19	10		
31.....							32	25		6		
Mean.....						105	59.1	21.8	27.0	12.4		
Run-off acre-feet.....						6250	3630	1340	1610	762		

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of East Fork Arkansas River near Leadville for 1914.
Drainage Area, 52 Square Miles. Altitude, 10,000 Feet Above Sea
Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					11	326	150	87	28	20	14	
2.....					10	310	150	83	21	20	14	
3.....					16	280	150	66	21	20	14	
4.....					22	265	150	48	21	17	9	
5.....					19	236	163	66	21	27	9	
6.....					16	236	145	57	21	27	9	
7.....					17	280	140	51	16	27	9	
8.....					28	221	132	48	16	27	9	
9.....					66	236	125	48	16	27	9	
10.....					80	236	120	48	16	27	9	
11.....					80	265	120	48	16	27	9	
12.....					74	265	120	45	17	27	9	
13.....					68	265	120	38	17	27	9	
14.....					91	227	120	38	17	27	9	
15.....					74	296	115	38	17	27	9	
16.....					82	259	108	32	17	27	9	
17.....					89	238	108	32	18	27	9	
18.....					128	244	101	32	18	27	9	
19.....					145	244	96	25	18	27	9	
20.....				16	140	244	96	25	18	27	9	
21.....				18	166	238	91	25	18	27	9	
22.....				19	188	238	91	25	18	27	9	
23.....				19	190	210	91	32	18	27	9	
24.....				19	207	210	91	34	18	27	9	
25.....				19	166	196	91	34	18	27	9	
26.....				16	188	180	91	34	19	27	9	
27.....				12	207	180	103	31	19	20	9	
28.....				12	193	163	140	27	19	20	8	
29.....				12	166	156	115	27	19	20	8	
30.....				11	236	156	91	27	19	20	8	
31.....					280		91	27		14		
Mean.....				15.6	111	237	120	41.2	18.5	24.7	9.40	
Run-off acre-feet.....				340	6820	14100	7380	2530	1100	1520	559	

Unless otherwise noted, all discharges are in cubic feet per second.

TENNESSEE FORK NEAR LEADVILLE.

Location.—At highway bridge in sec. 16, T. 9 S., R. 80 W., a few hundred yards above the mouth of the stream and about 3 miles northwest of Leadville.

Records Available.—February 8, 1911, to November 30, 1914.

Drainage Area.—45 square miles.

Gage.—Vertical staff.

Channel.—Data too meager to determine.

Discharge Measurements.—Made from bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—There are court decrees for diversions of 24 second-feet above the station. There is also a decree for diversion of 18.5 second-feet from the headwaters of Eagle River to Tennessee Fork above the station.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records were furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON THE TENNESSEE FORK NEAR LEADVILLE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 19	Raymond Richards.	0.66	121	May 4	R. H. Fletcher.....	0.34	50
June 22	R. H. Fletcher.....	0.47	70	June 9	Robert Follansbee....	0.62	121
Sept. 8	R. H. Fletcher.....	0.14	21	Aug. 13	M. D. Anderson.....	0.11	21
Oct. 14	Robert Follansbee....	0.04	14	Oct. 6	R. H. Fletcher.....	0.40	11

HALF MOON CREEK NEAR LEADVILLE.

Location.—In sec. 6, T. 10 S., R. 80 W., 1 mile above mouth of stream and 6 miles southwest of Leadville; no tributaries below the station.

Records Available.—April 10, 1911, to September 30, 1914.

Drainage Area.—30 square miles.

Gage.—Vertical staff.

Channel.—Shifting.

Discharge Measurements.—Made by wading.

Winter Flow.—Ice causes backwater during the winter months and records are discontinued.

Diversions.—There are court decrees for diversions of 12 second-feet above the station.

Accuracy.—Owing to the high altitude of the drainage basin, the stage is likely to show considerable diurnal fluctuations at certain seasons of the year, due to alternate melting and freezing, and the mean daily gage height based on one reading for day may be considerably in error. For this reason the estimates cannot be considered better than fair.

Co-operation.—This station is maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON HALF MOON CREEK NEAR LEADVILLE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 16	Raymond Richards...	.38	23.7	May 4	R. H. Fletcher.....	0.14	7.0
June 22	R. H. Fletcher.....	0.78	66.5	June 9	Robert Follansbee....	0.50	35.
Sept. 8	R. H. Fletcher.....	.50	18.5	Aug. 13	M. D. Anderson.....	0.55	31.
Oct. 14	Robert Follansbee....	.31	7.3				

COTTONWOOD CREEK BELOW HOT SPRINGS, NEAR BUENA VISTA.

Location.—In the Leadville National Forest, at bridge in sec. 22, T. 14 S., R. 79 W., half a mile below Hot Springs Hotel and 6 miles west of Buena Vista; 2 miles below mouth of South Fork, the nearest tributary.

Records Available.—April 9, 1911, to November 30, 1914. From September 25, 1910, to September 11, 1913, a station was maintained in section 21, 1 mile above the present station.

Drainage Area.—72 square miles (measured on forest atlas).

Gage.—Vertical staff.

Channel.—Probably permanent, although the rough section makes the results erratic.

Discharge Measurements.—Made from bridge or by wading.

Winter Flow.—The river is open during the winter months on account of hot springs above.

Diversions.—There are court decrees for diversions of 133 second-feet from Cottonwood Creek, of which 28 second-feet are above the station.

Accuracy.—Owing to the very rough condition of the stream bed, the estimates cannot be considered other than fair or possibly good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON COTTONWOOD CREEK NEAR BUENA VISTA.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 22	Raymond Richards...	1.02	71	Jan. 7	R. H. Fletcher.....	0.63	20
June 21	R. H. Fletcher.....	1.75	187	Aug. 15	M. D. Anderson	1.20	96
Sept. 9	R. H. Fletcher.....	0.95	63	Oct. 7	R. H. Fletcher.....	0.90	54
Oct. 13	Robert Follansbee....	0.87	50				

Discharge of Tennessee Fork near Leadville, Colo., for 1913.
 Drainage Area, 45 Square Miles. Altitude, 10,000 Feet Above Sea
 Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					103	100	30	18	12	12		
2.....						103	27	18	12	12		
3.....						109	27	18	12	12		
4.....						109	27	18	12	12		
5.....						90	25	17	12	12	15	
6.....						90	25	17	13	12	18	
7.....						90	25	17	15	12		
8.....						82	27	15	18	12	18	
9.....						77	27	15	18	12		
10.....					103	98	27	15	18	12		
11.....						140	27	17	18	12		
12.....						140	22	15	15	12		
13.....						60	20	17	15	12	12	
14.....						66	18	15	15	12	15	
15.....						66	20	15	15	12		
16.....					77	66	34	15	15	12		
17.....						66	27	15	15	12		
18.....						98	40	15	12	12		
19.....					121	73	53	15	12	12		
20.....						73	34	12	12	12		
21.....						73	34	12	12	12		
22.....						60	34	12	12	12		
23.....					90	73	53	12	12	12		
24.....						73	90	15	12	12		
25.....					440	60	40	12	12	12		
26.....						60	30	12	12	12		
27.....						48	27	12	12	12		
28.....						53	27	12	12	12		
29.....						53	27	12	12	12		
30.....						37	27	12	12	12		
31.....							22	12		12		
Mean.....						79.5	31.4	14.6	13.5	12		
Run-off acre-feet.....						4730	1930	898	803	738		

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Tennessee Fork near Leadville for 1914.
Drainage Area, 45 Square Miles. Altitude, 10,000 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				29	34	414	84		24	12	10	
2.....				36	29	397	79		18	12	10	
3.....				43	58	329	84		18	12	10	
4.....				43	86	312	84		18	12	10	
5.....				43	67	244	84		18	11	10	
6.....				43	67	244	79		18	11	10	
7.....				40	84	176	69		12	11	10	
8.....				36	160	176	64		12	11	10	
9.....				20	217	129	60		12	11	10	
10.....				29	237	160	60		12	11	10	
11.....			6	18	237	210	54		12	11	10	
12.....				40	176	193	45		12	11	10	
13.....				62	170	183	54		12	11	10	
14.....			6	96	193	203	54		12	11	10	
15.....				129	190	380	54		12	11	10	
16.....				108	203	247	54		12	11	10	
17.....				86	176	196	54		12	11	10	
18.....				74	203	213	54		12	11	10	
19.....			6	69	278	213	62		12	11	10	
20.....				64	295	186	79		12	11	10	
21.....			8	72	329	196	67		12	11	10	
22.....				81	363	179	67		12	11	10	
23.....				90	380	173	67		12	11	10	
24.....				99	431	147	67		12	11	10	
25.....			8	108	278	141	62		12	11	10	
26.....				100	346	111	72		12	11	10	
27.....				92	295	89	97		12	11	10	
28.....			8	74	346	89	200		12	11	10	
29.....				42	261	89	106		12	11	10	
30.....			10	38	312	89	92		12	11	10	
31.....					363		67			11		
Mean.....		8.0	8.0	63.5	221	204	73.4		13.4	11.1	10.0	
Run-off acre-feet.....		440	492	3780	13600	12100	4510		791	680	595	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Half Moon Creek near Leadville for 1913.
Drainage Area, 30 Square Miles. Altitude, 9,580 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						45	82	18	18	7	6	
2.....						90	82	18	18	7	6	
3.....					10	90	82	18	18	7	6	
4.....						78	82	18	14	7	6	
5.....						56	82	18	14	7	4	
6.....						56	82	18	14	7	4	
7.....						67	59	18	18	7	4	
8.....						56	70	18	24	7	4	
9.....						78	70	18	14	7	4	
10.....						78	48	24	10	7	4	
11.....						90	48	18	10	7	4	
12.....						90	48	14	10	7	4	
13.....						78	40	10	18	7	4	
14.....						78	31	10	18	7	4	
15.....						67	40	10	18	7	4	
16.....					65	102	31	10	18	7	4	
17.....						102	40	10	18	7	4	
18.....						130	48	10	18	7	4	
19.....						138	48	18	18	7	4	
20.....					70	138	48	31	18	7	4	
21.....						138	31	31	12	7	4	
22.....						109	31	31	12	7	4	
23.....						82	40	24	10	7	3	
24.....						70	48	24	10	7	3	
25.....						70	48	24	9	7	3	
26.....						95	48	24	9	6	3	
27.....					67	82	48	31	9	6	3	
28.....						82	48	24	8	6	3	
29.....						70	31	24	8	6	3	
30.....					90	70	31	18	8	6	3	
31.....					90		18	18		6		
Mean.....						85.8	51.1	19.4	14.0	6.81	4.00	
Run-off acre-feet.....						5110	3140	1190	833	419	238	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Half Moon Creek near Leadville, Colo., for 1914.
Drainage Area, 30 Square Miles. Altitude, 9,580 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						138	132	87	15			
2.....						138	132	71	15			
3.....						123	140	69	15			
4.....					7	123	140	69	15			
5.....					12	85	140	69	15			
6.....					12	85	138	49	15			
7.....					12	44	138	49	15			
8.....					12	35	138	49	15			
9.....					12	52	102	49	15			
10.....					29	110	102	47	15			
11.....					29	123	110	47	15			
12.....					29	138	102	47	15			
13.....					44	168	100	31	13			
14.....					44	202	107	17	13			
15.....					44	168	92	17	13			
16.....					52	146	92	17	13			
17.....					52	138	100	15	13			
18.....					62	168	107	15	13			
19.....					73	168	107	17	13			
20.....					73	178	97	17	10			
21.....					73	168	97	21	10			
22.....					97	165	85	17	10			
23.....					97	149	73	17	10			
24.....					110	165	110	17	10			
25.....					110	143	110	15	10			
26.....					110	135	115	13	10			
27.....					110	126	95	13	10			
28.....					85	135	95	21	10			
29.....					85	132	87	21	10			
30.....					97	140	87	21	10			
31.....					138		87	21				
Mean.....					61.1	133	108	33.7	12.7			
Run-off acre-feet.....					339	7910	6640	2070	756			

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Cottonwood Creek Below Hot Springs, near Buena Vista, for 1913.

Drainage Area, 72 Square Miles. Altitude, 8,000 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	21	21	22	18	37	200		70	55	62	30	19
2.....	21	21	23	18	50	200		68	55	68	30	24
3.....	21	21	18	14	37	181		66	48	68	30	30
4.....	21	21	18	14	37	181		64	48	68	36	30
5.....	21	21	18	14	37	181		62	48	68	36	30
6.....	21	21	18	14	43	181		55	48	62	36	36
7.....	21	21	18	14	63	144		55	48	62	30	36
8.....	21	21	18	14	69	144		55	48	62	30	30
9.....	21	21	18	14	56	162			58	62	30	36
10.....	21	21	18	14	63	200			55	68	30	30
11.....	21	21	18	14	76	181			55	68	36	30
12.....	21	21	18	14	90	162			68	62	30	30
13.....	21	21	18	14	90	144			68	65	36	30
14.....	21	21	18	14	76	144			68	62	36	30
15.....	21	21	18	18	50	181			68	62	36	30
16.....	21	21	18	20	50	200			62	55	24	30
17.....	21	21	18	20	63	200	68		62	48	24	30
18.....	21	21	18	26	76	200	68	55	55	42	30	30
19.....	21	17	18	26	90	200	68	55	55	42	30	24
20.....	21	17	18	26	76	220	68	48	55	42	30	19
21.....	21	17	18	26	63	200	68	48	55	36	30	19
22.....	21	17	18	26	67	200	111	55	55	36	30	24
23.....	21	17	18	26	82	181	111	68	55	42	19	24
24.....	21	17	18	16	111	181	96	68	55	42	24	30
25.....	21	17	18	16	111	181	82	68	55	42	30	30
26.....	21	21	18	16	162	181	82	62	55	48	30	24
27.....	21	21	14	20	200	181	80	62	55	48	30	24
28.....	21	21	14	20	144	172	78	55	55	30	24	24
29.....	21		14	26	181	172	76	55	55	36	24	24
30.....	21		18	31	200	172	74	55	55	36	19	19
31.....	21		18		220		72			30		19
Mean.....	21	20	17.9	18.8	80.4	181	80.1	59.3	55.9	52.4	29.7	27.3
Run-off acre-feet.....	1290	1110	1100	1120	5500	10800	2380	2590	3330	3220	1770	1680

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Cottonwood Creek Below Hot Springs, near Buena Vista, for 1914.

Drainage Area, 72 Square Miles. Altitude, 8,000 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	20	24	22	19	32	360	240	181	85	52	42	
2.....	21	22	19	17	32	320	230	172	75	48	42	
3.....	22	22	19	22	32	280	220	172	75	45	37	
4.....	23	19	19	22	36	260	240	162	75	55	37	
5.....	23	22	22	27	36	240	230	172	68	52	37	
6.....	23	19	19	27	38	210	230	153	65	52	36	
7.....	21	19	19	24	39	190	200	153	62	55	34	
8.....	21	19	19	23	45	190	190	153	62	52	34	
9.....	19	22	19	14	60	162	190	153	58	52	34	
10.....	17	18	22	23	85	220	181	144	58	52	32	
11.....	17	19	19	23	85	260	181	136	58	48	32	
12.....	17	22	19	17	75	280	181	119	58	47	30	
13.....	17	22	19	19	79	300	181	119	52	47	34	
14.....	17	22	22	23	89	320	220	108	52	45	30	
15.....	23	24	22	28	89	340	200	104	58	45	22	
16.....	23	24	19	29	79	320	200	104	65	45	24	
17.....	23	22	22	27	89	300	200	104	58	42	27	
18.....	23	23	22	27	104	300	240	99	52	42	24	
19.....	23	23	22	16	119	280	230	93	52	42	24	
20.....	21	24	16	23	148	280	240	85	55	42	23	
21.....	22	24	16	23	200	280	230	85	82	42	24	
22.....	17	24	16	27	220	260	230	93	82	48	23	
23.....	21	19	17	32	220	260	220	93	71	48	24	
24.....	23	19	17	27	230	240	200	85	71	65	24	
25.....	21	22	16	32	210	240	200	93	65	52	24	
26.....	21	22	17	29	200	240	200	89	65	48	23	
27.....	23	19	22	32	240	230	200	89	58	48	24	
28.....	23	22	23	32	230	230	240	96	55	45	24	
29.....	19		22	32	200	230	230	96	55	48	24	
30.....	17		17	34	260	230	190	89	52	45	24	
31.....	19		18		300		190	93		45		
Mean.....	23.9	20.8	19.4	25.0	126	262	211	119	63.3	48.2	29.1	
Run-off acre-feet.....	1470	1160	1190	1490	7750	15600	13000	7320	3770	2960	1730	

Unless otherwise noted, all discharges are in cubic feet per second.

NORTH COTTONWOOD CREEK NEAR BUENA VISTA.

Location.—At highway bridge in sec. 10, T. 14 S., R. 79 W., 6 miles northwest of Buena Vista, just below a small stream entering from the west, and $1\frac{1}{2}$ miles below mouth of Silver Creek.

Records Available.—October 5, 1911, to July 25, 1914.

Drainage Area.—50 square miles (measured on Forest atlas).

Gage.—Vertical staff.

Channel.—Permanent.

Discharge Measurements.—Made from the bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes some backwater effect during the winter months.

Diversions.—There are court decrees for diversions of 32 second-feet from North Cottonwood Creek.

Accuracy.—Owing to the high altitude of the drainage basin, it is probable that the river stage is subject to considerable diurnal fluctuations at certain seasons, due to the alternate melting and freezing. Therefore the mean daily gage height as determined from one reading per day may be considerably in error. This uncertainty in mean gage height and the many interpolated discharges make the estimates only fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON NORTH COTTONWOOD CREEK
NEAR BUENA VISTA.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
May 22	Raymond Richards...	4.24	20	Jan. 7	R. H. Fletcher.....	4.00	6.02
June 21	R. H. Fletcher.....	4.90	49				
Sept. 9	R. H. Fletcher.....	4.25	22				
Oct. 13	Robert Follansbee....	4.04	11				

CHALK CREEK AT UPPER STATION NEAR ST. ELMO.

Location.—In sec. 27, T. 15 S., R. 80 W., in the Leadville National Forest, one-quarter mile below the power plant of the Tin Cup Gold Dredging Company, and one and one-quarter miles below St. Elmo. The nearest tributary is Coal Creek, which enters a quarter mile below.

Records Available.—January 1, 1914, to November 30, 1914.

Drainage Area.—48 square miles (measured from Forest atlas).

Gage.—Friez recording gage owned by the Tin Cup Gold Dredging Company.

Channel.—Apparently permanent.

Discharge Measurements.—Made from foot bridge and by wading.

Winter Flow.—Ice causes backwater and discharge measurements are made to determine the approximate winter flow.

Diversions.—There are no court decrees for diversions from Chalk Creek, the water of which is not returned to the stream above the station.

Regulated Flow.—Low-water flow regulated to a certain extent by a small reservoir at St. Elmo formed by the diversion dam for the Tin Cup Gold Dredging power house.

Accuracy.—Conditions are favorable for accurate results and the estimates are considered excellent.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the Tin Cup Gold Dredging Company. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON CHALK CREEK AT UPPER STATION
NEAR ST. ELMO.

Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 6*	R. H. Fletcher.....	1.07	7.7
Feb. 18	R. H. Fletcher.....	1.00	7.6
May 5	R. H. Fletcher.....	1.33	21
June 10	Robert Follansbee....	1.98	117
Aug. 15	M. D. Anderson.....	1.60	50

*Slight ice effect.

CHALK CREEK NEAR ST. ELMO.

(Lower Station.)

Location.—In the Leadville National Forest at highway bridge in sec. 28, T. 15 S., R. 79 W., just below the cascades of Chalk Creek and 6 miles east of St. Elmo. Nearest tributary is a small intermittent stream entering from the north just below.

Records Available.—March 10, 1911, to November 11, 1914. From September 6 to December 28, 1910, a station was maintained in sec. 24, T. 15 S., R. 79 W.

Drainage Area.—75 square miles.

Gage.—Vertical staff.

Channel.—Somewhat shifting.

Discharge Measurements.—Made from the bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes only slight backwater.

Diversions.—There are no court decrees for diversions from Chalk Creek above the station, but below there are decrees for 132 second-feet.

Accuracy.—Owing to the high altitude of the drainage basin, it is probable that there is considerable diurnal fluctuation of stage at certain seasons, due to the alternate melting and freezing, and that the mean daily gage height as based on one reading per day may be considerably in error. The uncertain gage height and the many interpolated discharges can make the estimates only fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON CHALK CREEK NEAR ST. ELMO.

(Lower Station.)

Date 1913	Hydrographer	Gage Ht.		Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht.		Discharge Sec. Ft.
		Feet					Feet		
May 21	Raymond Richards..	1.46		86	Jan. 6*	R. H. Fletcher.....	0.90		18
July 16	R. H. Fletcher.....	1.43		89	May 5	R. H. Fletcher.....	1.10		28
Oct. 13	Robert Follansbee....	1.16		40	June 8	Robert Follansbee....	1.68		185
Nov. 11	R. H. Fletcher.....	1.02		21	Aug. 15	M. D. Anderson.....	1.42		83
					Oct. 7	R. H. Fletcher.....	1.16		43

*Slight ice effect.

Discharge of North Fork Cottonwood Creek, near Buena Vista,
for 1913.

Drainage Area, 50 Square Miles. Altitude, 8,200 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					11			24	14	19	16	15
2.....					11			23	14	19	16	15
3.....					10			22	14	18	16	16
4.....					11			20	14	18	17	14
5.....					12			18	14	18	17	13
6.....					14			18	15	19	17	12
7.....					20	45		16	16	20	16	12
8.....					19		26	14	26	19	15	12
9.....					18	75	25		20	18	14	12
10.....					17		25		20	16	14	12
11.....					16		24		20	14	13	12
12.....					15		24		24	13	13	12
13.....					14		23		26	12	14	12
14.....					14		23		28	16	14	11
15.....					14		22		28	16	14	11
16.....					14		22	14	28	17	14	11
17.....					14	79	22	14	28	17	14	11
18.....					14		22	14	26	12	14	10
19.....					14		22	15	26	13	14	10
20.....					16		22	15	25	14	13	10
21.....					18	51	23	15	25	15	13	10
22.....					20		40	16	24	16	13	10
23.....				10			45	16	23	18	14	10
24.....				10			42	16	22	18	14	10
25.....				11			40	16	20	17	14	10
26.....				12			38	15	18	17	14	9
27.....				12			35	15	16	18	14	9
28.....				12			32	15	17	18	14	9
29.....				12			30	15	18	19	14	9
30.....				12			28	15	20	18	14	9
31.....							26	15		17		9
Mean.....					14.8		28.4	16.5	21.0	16.7	14.4	11.2
Run-off acre-feet.....					.646		1350	786	1250	1030	857	689

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of North Fork Cottonwood Creek, near Buena Vista, for 1914.

Drainage Area, 50 Square Miles. Altitude, 8,200 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					d 14							
2.....			10									
3.....												
4.....				b 9		193						
5.....					e 12							
6.....			10	7								
7.....	6				e 12							
8.....					15							
9.....			10									
10.....												
11.....				6		152						
12.....												
13.....				6	38		106					
14.....												
15.....												
16.....			11			223	116					
17.....												
18.....				6	92		116					
19.....						193						
20.....												
21.....			14	6			64					
22.....												
23.....				c 5		193						
24.....												
25.....							57					
26.....												
27.....			a 10									
28.....				6								
29.....												
30.....			10									
31.....												
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

a Water turned into ditches about 2 sec. ft. b Approximately 4 ft. diverted.

c Approximately 5 ft. diverted. d Ditches dry. e Approximately 3 sec. ft. diverted.

Discharge of Chalk Creek at St. Elmo (Upper Station), for 1914.
 Drainage Area, 48 Square Miles. Altitude, 10,000 Feet Above
 Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	9		8	9	18	357	121	86	35	16	17	
2.....	9		8	9	18	334	121	90	33	17	17	
3.....	9		8	10	18	304	121	86	33	22	16	
4.....	9		8	10	23	263	121	80	29	32	14	
5.....	8		8	9	23	204	121	74	26	20	14	
6.....	8		8	9	23	182	109	67	24	20	14	
7.....	8	9	8	9	33	136	103	62	21	20	14	
8.....	8		8	9	53	118	86	65	22	20	11	
9.....	9		8	8	68	140	84	60	24	20	12	
10.....	9		8	8	82	220	86	79	23	21	11	
11.....	9		8	11	79	259	82	65	23	20	11	
12.....	9		8	11	77	277	80	59	23	17	11	
13.....	9		8	11	88	284	95	54	24	18	11	
14.....	9	7	8	11	92	253	107	50	25	16	8	
15.....	9	7	8	17	79	296	105	50	27	17	7	
16.....	9	7	8	17	72	235	117	52	24	16	7	
17.....	9	7	8	14	85	246	109	53	20	17	8	
18.....		7	8	11	100	240	132	54	20	16	9	
19.....		7	8	11	113	235	143	46	18	16	8	
20.....		7	9	15	160	224	132	46	16	13	8	
21.....			9	16	215	220	143	54	32	16	8	
22.....			11	17	236	215	154	52	27	19	9	
23.....			9	16	190	210	121	45	20	16	8	
24.....			8	17	179	200	113	42	20	19	8	
25.....			9	23	167	190	117	41	15	19	9	
26.....			8	23	203	143	111	40	17	19	9	
27.....			7	20	224	166	111	30	16	20	8	
28.....			10	21	178	154	132	26	15	18	8	
29.....			10	20	194	132	107	29	16	19	8	
30.....			10	20	264	121	99	44	16	18	8	
31.....			9		320		99	41		19		
Mean.....	8	8	8.4	13.7	119	219	112	56.2	22.8	18.6	10.4	
Run-off acre-feet.....	492	444	516	815	7320	13000	6890	3460	1360	1140	619	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Chalk Creek near St. Elmo (Lower Station), for 1913.

Drainage Area, 75 Square Miles. Altitude, 10,000 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	10	9	10	10	28	300	270	66	94	54	17	16
2	10	10	9	10	32	300	240	66	93	54	20	16
3	10	10	8	9	32	270	240	66	92	54	24	16
4	10	10	10	9	30	270	215	62	91	54	96	16
5	10	11	10	8	44	240	215	64	90	54	24	16
6	10	9	9	9	72	240	190	62	89	54	17	17
7	10	10	10	9	89	215	146	64	88	39	17	17
8	10	10	9	9	99	190	146	54	88	54	17	17
9	10	10	10	9	67	240	146	47	75	32	18	17
10	9	9	10	9	82	300	190		75	32	19	17
11	9	10	11	9	120	300	168		75	29	19	17
12	9	9	10	9	138	332	146		75	34	28	17
13	9	9	11	9	159	270	128		75	39	19	17
14	9	9	11	16	120	300	104		69	39	19	17
15	9	9	11	14	82	332	98		63	36	17	17
16	9	10	11	12	56	365	110		63	27	18	17
17	9	10	11	26	95	365	146		63	27	19	17
18	9	10	10	19	138	380	110	54	63	19	19	24
19	9	10	10	19	159	380	98	56	63	26	23	24
20	8	10	10	14	120	365	104	56	63	32	17	22
21	9	10	9	19	102	365	146	56	59	27	19	20
22	9	10	10	24	138	332	190	62	54	28	19	18
23	9	10	10	19	230	300	215	67	50	25	18	17
24	9	10	9	19	258	332	215	72	46	24	18	17
25	10	10	9	21	230	332	168	78	42	18	18	17
26	10	10	9	14	317	300	168	80	38	22	16	21
27	10	10	10	19	285	332	98	88	40	25	16	21
28	10	10	10	28	205	332	92	96	45	25	16	19
29	10		10	37	258	300	86	96	45	18	16	17
30	10		10	40	285	300	83	95	50	150	16	17
31	10		10		258		75	95		25		17
Mean	9.48	9.79	9.90	15.9	140	306	153	69.7	67.2	37.9	21.3	17.9
Run-off acre-feet	583	544	609	946	8610	18200	9410	3180	4000	2330	1270	1100

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Chalk Creek near St. Elmo (Lower Station), for
1914.

Drainage Area, 75 Square Miles. Altitude, 10,000 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	17	17	16	17	28	445	250	195	69	41	41	
2.....	17	17	16	16	26	480	195	195	63	41	37	
3.....	17	17	16	17	27	410	250	195	58	41	41	
4.....	17	17	16	19	27	375	250	170	58	45	29	
5.....	17	17	16	20	27	242	220	170	58	41	29	
6.....	17	17	16	20	29	250	195	145	50	48	33	
7.....	17	17	16	24	29	230	195	145	52	45	41	
8.....	17	17	16	20	42	195	195	145	52	45	26	
9.....	17	17	17	20	67	250	195	145	46	48	29	
10.....	17	17	16	19	84	375	195	145	43	41	29	
11.....	17	17	16	19	101	375	170	145	43	41	29	
12.....	20	16	16	19	84	375	195	126	43	37		
13.....	17	20	16	19	84	375	195	107	45	41		
14.....	17	17	16	18	107	425	250	101	45	26		
15.....	17	17	16	20	107	480	195	92	45	35		
16.....	17	17	16	26	95	375	222	92	53	35		
17.....	17	16	16	26	101	375	195	92	45	35		
18.....	17	16	16	20	107	375	250	92	45	35		
19.....	17	16	17	22	126	375	280	78	46	35		
20.....	17	16	17	22	195	375	250	78	46	35		
21.....	17	16	17	22	310	375	250	78	65	35		
22.....	17	16	17	23	375	375	280	92	54	41		
23.....	17	16	16	26	342	375	250	92	54	41		
24.....	17	16	17	28	300	280	222	92	46	41		
25.....	17	16	16	27	250	280	195	74	48	35		
26.....	17	16	16	27	310	145	195	67	48	35		
27.....	17	16	16	27	280	145	195	67	44	35		
28.....	17	16	17	28	250	175	250	67	40	35		
29.....	17		17	26	310	200	250	78	40	35		
30.....	17		17	30	375	225	195	78	40	35		
31.....	17		17		410		195	74		35		
Mean.....	17.1	16.6	16.3	22.2	161	328	220	113	49.5	38.5	33.1	
Run-off acre-feet.....	1050	920	1000	1320	9900	19500	13500	6950	2940	2370	722	

Unless otherwise noted, all discharges are in cubic feet per second.

SOUTH FORK OF ARKANSAS RIVER AT PONCHA.

Location.—At highway bridge about half a mile from Poncha, in sec. 10, T. 49 N., R. 8 E. Nearest tributary, Poncha Creek, enters one-fourth mile below.

Records Available.—January 14, 1911, to November 30, 1914.

Drainage Area.—140 square miles.

Gage.—Vertical staff.

Channel.—Permanent prior to the high water of 1912, when it shifted.

Discharge Measurements.—Made from bridge during high water and by wading at ordinary stages.

Winter Flow.—Springs keep this stream open during the winter months.

Diversions.—There are court decrees for diversions of 113 second-feet from the South Fork above the station, and 66 second-feet below. There are also decrees for diversions of 76 second-feet from the North Fork which enters above.

Accuracy.—The high altitude of the drainage basin causes diurnal fluctuations of stage during certain seasons, due to alternate melting and freezing. The mean daily gage height is based on three readings per day, the maximum stage, which occurs during the night, and readings at 6 a. m. and 6 p. m. The mean stage as determined in this manner may be somewhat in error, and therefore the estimates can not be considered better than good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON THE SOUTH FORK OF ARKANSAS RIVER AT PONCHA.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 16	Robert Follansbee.....	-0.03	16.5	Feb. 9	R. H. Fletcher.....	0.30	29.
June 20	R. H. Fletcher.....	1.00	134	May 6	R. H. Fletcher.....	-0.09	11
Aug. 26	R. H. Fletcher.....	0.10	20.4	May 31	Robert Follansbee....	2.30	385
Oct. 25	Robert Follansbee ...	-0.20	7.0	Aug. 17	M. D. Anderson.....	1.10*	32

*Gage lowered 1.00 ft.

PONCHA CREEK AT PONCHA.

Location.—At highway bridge in sec. 10, T. 49 N., R. 8 E., near Poncha, about one-fourth mile above the mouth of creek.

Records Available.—January 14, 1911, to November 30, 1914.

Drainage Area.—89 square miles (measured on Forest Atlas).

Gage.—Vertical staff.

Channel.—Shifting.

Discharge Measurements.—Made from bridge during high water and by wading at ordinary stages.

Winter Flow.—Springs prevent the creek from freezing to any considerable extent.

Diversions.—There are court decrees for diversions of 7 second-feet above the station, but none below.

Accuracy.—Owing to the high altitude of this drainage basin, the stage is subject to considerable diurnal fluctuations at certain seasons of the year due to alternate melting and freezing, and the mean daily gage height based on morning and evening readings and the maximum stage for 24 hours may be somewhat in error. The uncertain mean gage height and the shifting conditions make the estimates of daily discharge only fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON PONCHIA CREEK AT PONCHA.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 16	Robert Follansbee.....	0.99	43	Feb. 9	R. H. Fletcher.....	0.30	5.82
June 20	R. H. Fletcher.....	1.10	59	May 6	R. H. Fletcher.....*	1.66	25
Aug. 26	R. H. Fletcher.....	0.35	6.88	May 31	Robert Follansbee.....	2.49	140
Oct. 25	Robert Follansbee.....	0.25	5.04	Aug. 17	M. D. Anderson.....	1.34	12
				Oct. 8	R. H. Fletcher.....	1.20	5.44

*Gage established May 6.

Discharge of South Fork Arkansas River at Poncha for 1913.
Drainage Area, 140 Square Miles. Altitude, 7,471 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					15	152	40	4	15	13		
2.....					15	173	21	7	16	15		
3.....					8	142	16	6	16	18		
4.....					6	119	11	11	8	16		
5.....					5	79	15	14	4	17		
6.....					13	75	20	16	4	10		
7.....					16	57	21	17	2	8		
8.....					22	65	20	10	5	9		
9.....					24	218	23	8	4	10		
10.....					24	255	18	8	4	10		
11.....					59		18	13	4	10		
12.....					132		20	37	4	13		
13.....					132		18	19	4	12		
14.....					100	152	9	15	6	12		
15.....					30	195	12	17	8	12		
16.....					20	195	13	18	7	11		
17.....					21	173	14	20	6	9		
18.....					33	162	15	21	8	8		
19.....					46	184	16	32	5	9		
20.....					28	152	27	46	8	9		
21.....					18	184	50	28	8	9		
22.....					18	230	28	25	8	8		
23.....					53	195	113	25	11	8		
24.....					113	195	43	21	10	9		
25.....					162	162	26	25	10	10		
26.....					195	100	28	22	10			
27.....					206	65	21	21	8			
28.....					173	53	20	22	8			
29.....					184	48	8	21	8			
30.....					173	32	3	16	8			
31.....					184		4	16				
Mean.....					71.9	141	22.9	18.7	7.57	11.0		
Run-off acre-feet.....					4420	7550	1470	1150	450	546		

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of South Fork Arkansas River at Poncha for 1914.
Drainage Area, 140 Square Miles. Altitude, 7,471 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....		36	20	14	14	515	88	183	13	8	44	
2.....		34	26	11	26	485	76	173	13	8	41	
3.....		34	20	10	16	397	86	227	13	8	37	
4.....		29	26	9	18	397	110	213	13	10	33	
5.....		30	26	11	12	324	123	183	13	9	35	
6.....		30	34	12	9	302	79	133	13	9	35	
7.....		32	48	8	12	209	91	91	10	10	35	
8.....		30	48	9	23	139	86	67	10	8	32	
9.....		34	43	9	74	88	63	67	10	10	30	
10.....		32	26	8	104	199	54	95	8	9	30	
11.....		32	26	8	120	240	49	95	8	9	32	
12.....		30	23	8	77	324	37	70	7	10	32	
13.....		26	20	10	54	334	56	58	6	10	32	
14.....		34	26	9	60	271	45	56	6	13	37	
15.....		30	26	11	74	355	39	46	6	18	46	
16.....		30	20	15	60	355	37	48	5	14	37	
17.....		26	23	10	60	338	55	37	5	14	37	
18.....		30	23	8	64	317	231	28	5	14	37	
19.....		32	23	8	104	307	235	28	5	13	37	
20.....		32	26	6	179	275	235	33	5	16	37	
21.....		29	26	7	250	300	205	28	6	33	41	
22.....		32	20	8	334	279	267	33	5	35	50	
23.....		26	20	10	302	258	169	33	5	52	41	
24.....		20	23	7	302	187	110	26	5	37	50	
25.....		20	18	7	282	141	125	26	5	39	50	
26.....		20	14	5	302	121	110	33	5	43	46	
27.....		26	14	5	282	102	118	16	5	39	46	
28.....		20	18	5	271	102	296	16	5	39	41	
29.....			23	4	282	112	265	19	5	44	37	
30.....			20	10	355	79	244	19	7	43	33	
31.....			14		455		203	16		43		
Mean.....		29.1	24.6	8.7	148	262	129	70.8	7.6	21.2	38.4	
Run-of acre-feet.....		1620	1510	518	9100	15600	7930	4350	452	1300	2230	

Unless otherwise noted, all discharges are in cubic feet per second.

NOTE.—Water running around gage May 31-June 4.

Discharge of Poncha Creek at Poncha for 1913.
Drainage Area, 89 Square Miles. Altitude, 7,471 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					31	58	26	11	13	19		
2.....					30	68	25	12	12	16		
3.....					24	54	24	11	13	16		
4.....					22	58	23	11	13	16		
5.....					24	39	18	9	10	16		
6.....					30	50	19	8	10	8		
7.....					36	43	18	10	10	20		
8.....					39	50	18	7	12	6		
9.....					34	73	20	6	10	7		
10.....					58	68	20	6	10	4		
11.....					58		18	11	10	8		
12.....					54		15	12	10	14		
13.....					68		13	16	10	16		
14.....					78	78	13	13	10	11		
15.....					45	63	14	13	11	9		
16.....					45	63	14	13	12	9		
17.....					73	54	14	13	12	7		
18.....					73	54	20	13	11	7		
19.....					73	58	27	13	9	6		
20.....					54	63	41	14	4	5		
21.....					50	54	35	13	6	6		
22.....					54	50	41	12	4	3		
23.....					68	39	39	11	7	4		
24.....					73	45	35	9	9	3		
25.....					78	36	24	11	9	4		
26.....					78	32	20	10	8			
27.....					100	37	20	11	9			
28.....					73	28	16	9	8			
29.....					78	28	16	12	8			
30.....					68	25	16	13	8			
31.....					78		13	15				
Mean.....					56.4	50.7	21.8	11.2	9.6	9.6		
Run-off acre-feet.....					3470	2720	1340	689	571	476		

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Poncha Creek at Poncha for 1914.
Drainage Area, 89 Square Miles. Altitude, 7,471 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		12	3	7	30	193	26	24	8	6	13	
2		3	2	10	41	182	25	23	8	6	13	
3		2	4	14	24	152	25	27	8	6	16	
4		2	3	14	22	132	27	26	8	8	16	
5		2	3	13	29	132	26	22	8	6	16	
6		2	6	16	40	123	24	22	8	6	12	
7		3	12	11	40	80	27	19	8	6	8	
8		4	14	12	50	80	25	16	7	6	8	
9		4	12	8	72	87	23	16	6	7	8	
10		4	5	10	80	104	20	14	6	6	10	
11		4	4	9	80	132	14	13	6	6	10	
12		4	2	9	80	104	16	12	6	6	10	
13		4	2	10	96	104	16	11	6	6	5	
14		4	1	11	114	65	14	10	6	6	4	
15		4	0.5	16	104	132	13	12	6	6	19	
16		4	1	23	72	104	9	11	6	6	19	
17		4	0.5	14	65	114	18	11	6	5	4	
18		5	2	12	114	72	25	12	6	10	4	
19		5	2	13	142	65	37	11	6	7	4	
20		4	2	19	123	65	33	10	6	9	5	
21		4	3	22	152	65	24	25	7	23	4	
22		5	3	24	152	56	29	23	6	18	4	
23		4	2	28	172	45	27	23	6	18	4	
24		2	4	22	172	40	22	18	6	18	4	
25		3	6	26	193	35	20	18	6	16	6	
26		4	3	28	193	35	19	23	6	18	5	
27		2	2	20	182	29	22	23	6	16	8	
28		3	2	22	152	29	49	10	6	16	6	
29			4	24	152	27	44	9	7	14	5	
30			6	37	182	16	31	9	6	14	4	
31			8		182		28	9		14		
Mean		3.8	4	16.8	107	86.6	24.5	16.5	6.6	10.2	8.5	
Run-off acre-feet		211	246	1000	6580	5150	1510	1010	393	627	506	

Unless otherwise noted, all discharges are in cubic feet per second.

GRAND RIVER DRAINAGE

NORTH FORK OF GRAND RIVER NEAR GRAND LAKE.

Location.—Three miles southwest of Grand Lake, Colo., in sec. 13, T. 3 N., R. 76 W. Nearest tributary, Grand Lake outlet, enters some distance below; no tributaries for several miles above the station.

Records Available.—July 29, 1904, to September 30, 1909; September 20, 1910, to November 15, 1914.

Drainage Area.—107 square miles.

Gage.—Vertical staff.

Channel.—Practically permanent.

Discharge Measurements.—Made from highway bridge at the gage.

Winter Flow.—Ice forms along the edges, but springs keep the river open.

Diversions and Storage.—There are court decrees for diversions of 716 second-feet from the headwaters above the station. Of this amount 525 second-feet are for diversion across the divide into the headwaters of the Cache la Poudre. There is also a reservoir decree for 19,000 acre-feet from the flood water.

Accuracy.—Results considered good.

Co-operation.—Station maintained in co-operation with the United States Geological Survey.

DISCHARGE MEASUREMENTS ON NORTH FORK OF GRAND RIVER
NEAR GRAND LAKE.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
July 31	R. H. Fletcher.....	3.98	82	May 15	R. H. Fletcher.....	4.80	367

GRAND RIVER AT SULPHUR SPRINGS.

Location.—At the bridge connecting the Denver, Northwestern & Pacific Railway station with the town of Sulphur Springs, in sec. 2, T. 1 N., R. 78 W. Nearest tributary, Beaver Creek, enters the river 2 miles below the station.

Records Available.—July 22, 1904, to September 30, 1909, a station was maintained at this point by the United States Geological Survey; September 23, 1910, to November 16, 1914.

Drainage Area.—946 square miles (measured from Hayden's atlas).

Gage.—Chain gage; datum the same as that of the gage used originally.

Channel.—Somewhat shifting.

Discharge Measurements.—Made from bridge during high and ordinary stages and by wading during low water.

Winter Flow.—The river is frozen over during the winter months and discharge measurements are made to determine the winter flow.

Diversions.—Between this station and that near Granby there are court decrees for diversions of 100 second-feet from Grand River and 662 second-feet from intervening tributaries. There is also a reservoir decree for 31,300 acre-feet from the flood waters of Grand River.

Accuracy.—Owing to the shifting of the channel, the estimates of discharge can not be considered better than fair or possibly good. Estimates have been made only for days on which the gage was read.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON GRAND RIVER AT SULPHUR SPRINGS.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 11	R. H. Fletcher.....	4.32	1870	Jan. 29	R. H. Fletcher.....	3.20	115
July 8	R. H. Fletcher.....	3.38	907	Mar. 7	R. H. Fletcher.....	3.22	132
Oct. 9	Robert Follansbee....	2.46	388	May 16	R. H. Fletcher.....	4.88	2550
				June 3	R. H. Fletcher.....	7.97	7970
				Aug. 4	M. D. Anderson.....	3.20	805
				Aug. 6	M. D. Anderson.....	2.99	664
				Oct. 18	R. H. Fletcher.....	2.20	274

GRAND RIVER NEAR KREMMLING.

Location.—At the entrance to Gore Canyon, 3 miles southwest of Kremmling, in sec. 23, T. 1 N., R. 81 W. Nearest tributary, Blue River, enters a mile below Kremmling.

Records Available.—July 24, 1904, to November 30, 1914.

Drainage Area.—2,380 square miles.

Gage.—Automatic recording gage, except during the winter months when a staff gage is read.

Channel.—Somewhat shifting; the bed scours at high stages and silts during low.

Winter Flow.—Although the river is frozen entirely across at the station, there is little, if any, backwater, as shown by discharge measurements made during the winter. Rapids below the station remain open and thus prevent backwater except for short periods when ice jams on the rapids.

Kremmling Reservoir Site.—The station is located at the site of the proposed Kremmling reservoir of the United States Reclamation Service. With a 200-foot dam at the mouth of Gore Canyon the capacity of the reservoir would be 2,200,000 acre-feet.

Diversions.—Between this station and that at Sulphur Springs there are court decrees for diversions of 34 second-feet

from Grand River and 2,315 second-feet from intervening tributaries exclusive of diversions for placer mining in the Blue River drainage.

Accuracy.—Although the channel is somewhat shifting, sufficient discharge measurements have been made to form a basis for fairly reliable estimates of flow.

Co-operation.—Station maintained in co-operation with the United States Geological Survey.

DISCHARGE MEASUREMENTS ON GRAND RIVER NEAR KREMMLING.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 25*	C. L. Chatfield		260	Jan. 27*	R. H. Fletcher	0.90	419
May 10	R. H. Fletcher	8.60	3830	Mar. 6	R. H. Fletcher	.85	408
July 1	R. H. Fletcher	6.70	2660	May 17	R. H. Fletcher	11.42	6520
July 31	R. H. Fletcher	3.90	1320	Oct. 17	R. H. Fletcher	2.49	809
				Nov. 11	R. H. Fletcher	2.06	664
				Nov. 12	R. H. Fletcher	0.96	338
				Nov. 14	R. H. Fletcher	1.55	436

*Ice conditions.

Discharge of North Fork of Grand River at Grand Lake for 1913.
Drainage Area, 125 Square Miles. Altitude, 8,153 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				30	208	740	208	75	62	75	41	
2.....				28	197	620	184	72	68	82	35	
3.....				30	190	560	174	72	68	68	49	
4.....				42	154	560	159	68	62	82	31	
5.....				38	166	506	154	90	62	87	60	
6.....				35	208	478	137	75	68	82	60	
7.....				42	242	450	132	75	72	75	53	
8.....				42	260	395	159	65	75	78	62	
9.....				38	260	395	137	60	82	68	60	
10.....				38	260	395	154	75	94	62	56	
11.....				38	260	395	137	62	82	60	56	
12.....				38	345	395	127	72	90	51	49	
13.....				42	422	345	101	68	90	82	53	
14.....				42	345	300	127	65	82	78	51	
15.....				60	242	370	137	60	94	75	38	
16.....				159	225	422	146	56	105	72	68	
17.....				159	218	370	154	53	94	68	72	
18.....				159	242	370	159	51	82	65	46	
19.....				137	300	395	137	51	72	65	42	
20.....				109	280	370	127	49	65	65	49	
21.....				120	242	345	146	62	65	60	46	
22.....				132	260	300	174	60	62	62	44	
23.....				132	280	280	208	53	68	68	44	
24.....				75	300	260	280	60	65	65	44	
25.....				78	422	345	218	56	65	68	51	
26.....				68	532	300	159	51	72	62	56	
27.....				82	620	280	127	53	68	60	53	
28.....				114	560	260	101	51	65	53	46	
29.....				174	590	242	90	51	65	65	42	
30.....			28	184	680	225	87	49	72	56	42	
31.....			28		680		82	56		49		
Mean.....				82.2	329	389	149	61.8	74.5	68.0	50.0	
Run-off acre-feet.....				4890	20200	23100	9160	3800	4430	4180	2980	

Unless otherwise noted, all discharges are in cubic feet per second.

**Discharge of North Fork of Grand River at Grand Lake for 1914.
Drainage Area, 125 Square Miles. Altitude, 8,153 Feet Above
Sea Level.**

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				33	145	1700	405	145	140	85	52	
2.....				33	132	1470	332	145	100	58	47	
3.....				33	132	1470	355	132	85	58	46	
4.....				33	145	1320	355	132	82	58	46	
5.....				33	200	1170	405	120	74	71	44	
6.....				33	235	1020	355	110	71	58	40	
7.....				35	355	885	310	100	71	58	37	
8.....				35	405	885	310	100	85	58	35	
9.....				37	455	750	310	100	78	71	35	
10.....				37	565	685	270	100	71	64	40	
11.....				37	455	750	235	92	71	64	46	
12.....				40	332	1020	235	82	71	71	47	
13.....				40	332	1100	270	78	85	64	58	
14.....				58	332	1170	235	74	71	61	68	
15.....			27	82	310	1240	218	71	71	64	74	
16.....			27	100	405	1020	206	71	74	64		
17.....			30	88	455	815	685	78	71	71		
18.....			30	85	455	815	655	85	68	64		
19.....			27	100	455	955	176	92	64	64		
20.....			27	104	538	1020	145	85	61	61		
21.....			27	116	625	955	170	100	71	64		
22.....			27	125	750	815	200	92	68	71		
23.....			27	145	815	750	158	85	64	85		
24.....			27	145	815	625	145	78	61	78		
25.....			27	145	885	565	145	71	58	71		
26.....			30	140	955	510	132	78	58	68		
27.....			30	132	1100	455	132	88	56	64		
28.....			30	132	1470	455	132	85	58	61		
29.....			30	140	1170	455	120	82	64	58		
30.....			30	170	1020	405	235	78	71	56		
31.....			30		1020		194	85		52		
Mean.....			28.4	82.2	563	908	265	94.0	73.0	65.0	47.7	
Run-off acre-feet.....			958	4890	34600	54000	16300	5780	4340	4000	*1420	

Unless otherwise noted, all discharges are in cubic feet per second.

*15 days.

Discharge of Grand River at Sulphur Springs for 1913.
Drainage Area, 946 Square Miles. Altitude, 7,665 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						3760	1110	472	246	325	246	
2.....						3100	1020	447	250	350	246	
3.....						2960	935	447	280	357	230	
4.....						2820	820	429	292	378	215	
5.....					1840	2650	805	412	305	337	215	
6.....					1540	2480	890	395	317	347	215	
7.....					1440	2420	875	378	280	357	215	
8.....					1540	2050	860	368	286	357	215	
9.....					1440	2050	845	357	292	378	215	
10.....					1490	2050	830	357	298	378	215	
11.....					1820	2050	700	368	304	357	230	
12.....					1930	2000	650	400	310	357	246	
13.....					2050	1900	600	380	317	360	246	
14.....					1930	1650	550	345	317	355	246	
15.....					1380	1650	700	310	400	350	246	
16.....					1190	1760	900	298	400	325	201	
17.....					1190	1820	1100	298	375	300	215	
18.....					1190	2000	1100	286	349	280	215	
19.....					1220	1950	1000	275	324	280	215	
20.....					1250	1800	980	263	298	289	210	
21.....					1280	1700	1020	280	298	298	206	
22.....					1100	1600	1020	270	295	280	201	
23.....					1520	1490	1080	246	290	275	200	
24.....					1930	1490	1250	246	290	255	205	
25.....					2110	1490	1190	246	295	246	220	
26.....					2680	1490	935	246	295	246	240	
27.....					3310	1280	860	246	300	246	280	
28.....					3240	1280	725	246	300	246	280	
29.....					3460	1190	725	246	298	246	280	
30.....					3680	1190	550	246	300	246	280	
31.....					3900		550	246		246		
Mean.....					1930	1970	877	324	307	311	230	
Run-off acre-feet.....					103000	117000	53900	19900	18300	19100	13700	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Grand River at Sulphur Springs for 1914.
Drainage Area, 946 Square Miles. Altitude, 7,665 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					790	7580	2290	1020	391	263	246	
2					860	8000	2170	935	366	263	230	
3					860	7790	2060	860	337	260	215	
4					935	6740	2060	790	317	263	212	
5					1020	5530	2550	695	302	246	212	
6					1020	4970	2170	606	298	246	201	
7				497	1020	4970	2060	550	284	234	193	
8				424	1100	4290	1930	550	280	230	167	
9				357	2170	3830	1700	550	266	246	187	
10				337	2960	4290	1600	550	263	253	174	
11				310	3240	4620	1490	539	253	253	151	
12				317	2680	4790	1380	497	249	263	158	
13				400	2420	5530	1380	447	280	277	158	
14				636	2170	5730	1280	447	298	280	167	
15				790	2290	5530	1190	400	302	266	162	
16				825	2680	5150	1190	400	317	273	167	
17				725	2820	4620	1190	391	317	263		
18				524	3100	4790	1100	400	317	263		
19				550	3380	4790	1100	400	295	263		
20				578	3580	4790	1020	400	295	249		
21				758	4130	4790	1190	447	298	260		
22				665	4620	4620	1190	447	298	287		
23				1100	4970	4290	1140	447	295	317		
24				898	5530	3980	1020	378	277	317		
25				860	5150	3680	860	349	266	302		
26				1240	4790	3240	790	349	260	302		
27				1280	5150	2960	790	349	246	298		
28				860	6330	2550	898	357	230	284		
29				725	6130	2420	1140	366	227	277		
30				860	6130	2550	1240	366	227	260		
31					5730		1100	391		249		
Mean				688	3220	4780	1430	506	288	268	188	
Run-off acre-feet				32700	198000	284000	87900	31100	17100	16500	5950	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Grand River near Kremmling for 1913.
Drainage Area, 2,380 Square Miles. Altitude, 7,320 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						7730	2720	1250	812	812	752	
2.....						7370	2480	1180	843	955	708	
3.....						6740	2370	1120	843	1000	678	
4.....						6120	2200	1100	859	971	678	
5.....						5600	2160	1080	891	1040	664	
6.....						5300	2060	1050	907	1050	622	
7.....						4920	2000	1050	1020	1020	693	
8.....						4380	1960	1020	1130	939	737	
9.....						4220	1960	987	1170	907	580	
10.....					3900	4380	1960	955	1150	907	636	
11.....					4470	4920	2000	955	1050	875	693	
12.....					4740	5500	1660	987	987	812	636	
13.....					5300	4560	1540	1100	1000	843	678	
14.....					4560	4560	1440	1050	939	875	737	
15.....					3760	3830	1520	987	955	875	737	
16.....					3340	4140	1700	939	1120	859	678	
17.....					3340	4220	1900	891	1080	828	708	
18.....					3410	4380	2200	859	1020	782	693	
19.....					3690	4920	2260	843	939	737	722	
20.....					3760	4830	2000	828	859	708	664	
21.....					3550	4300	1900	828	812	737	636	
22.....					3200	3980	2000	859	782	752	594	
23.....					3140	3830	2000	859	797	752	487	
24.....					3830	3690	2260	828	812	752	461	
25.....					4470	3550	2600	812	812	676	494	
26.....					5300	3480	2320	828	797	650	526	
27.....					6340	3340	2000	812	782	622	664	
28.....					6780	3200	1750	812	782	650	622	
29.....					6780	3200	1500	843	782	678	737	
30.....					7250	3020	1380	891	797	693	678	
31.....					7610		1290	828		737		
Mean.....					4460	4610	1970	940	918	822	653	375
Run-off acre-feet.....					203000	274000	121000	58400	54600	50500	38900	23100

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Grand River near Kremmling for 1914.
Drainage Area, 2,380 Square Miles. Altitude, 7,320 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	375	301	461	843	2100	15100	5290	3080	1190	739	707	
2	375	389	474	971	2100	16300	5070	2720	1120	739	707	
3	375	474	474	1240	2160	16400	4860	2600	1080	739	707	
4	375	474	479	1340	2200	16000	4650	2370	1010	771	676	
5	375	474	479	1600	2540	14300	5200	2100	975	771	645	
6	375	474	479	1240	2660	12900	4920	2000	950	739	602	
7	373	448	487	1440	2600	11500	4300	1880	925	739	587	
8	410	448	474	1170	2960	9950	4060	1720	900	771	559	
9	436	448	487	1070	4060	9680	3830	1720	875	837	531	
10	410	448	487	1040	5500	7860	3620	1680	850	871	531	
11	436	448	495	907	6670	9290	3480	1590	825	837	559	
12	392	448	495	843	6340	10400	3340	1470	800	837	464	
13	349	448	531	1040	5400	11400	3270	1430	771	604	545	
14	325	448	521	1270	5200	12800	3270	1350	871	837	464	
15	349	448	505	1720	5700	12300	3200	1350	905	771	518	
16	349	448	492	2160	6120	12000	2960	1230	871	771	477	
17	373	448	479	2100	6560	10900	3020	1230	905	804	518	
18	349	448	536	1480	7010	10500	3200	1230	837	804	518	
19	398	448	594	1170	7610	10500	2960	1230	771	771	425	
20	373	448	534	1340	8250	10500	2840	1230	771	771	388	
21	349	448	474	1860	9290	10800	2660	1230	871	804	375	
22	313	448	468	1820	10400	10200	3140	1310	940	804	464	
23	319	448	461	2420	11500	9420	3140	1390	871	940	438	
24	325	448	487	2000	12500	8510	2720	1270	837	940	425	
25	386	448	513	1860	12800	7610	2420	1190	804	871	425	
26	398	474	568	1860	12000	6670	2370	1160	771	837	425	
27	398	474	622	2060	11900	5900	2370	1190	707	837	425	
28	373	474	748	1960	12600	5700	2540	1230	707	804	412	
29	349		875	1860	13700	5500	2540	1270	707	771	412	
30	337		859	1960	13200	5500	2540	1310	707	771	412	
31	487		843		13400		3140	1230		771		
Mean	374	447	545	1520	7320	10500	3450	1580	871	802	511	
Run-off acre-feet	28000	24800	33500	90400	450000	625000	212000	97200	51800	49300	30400	

Unless otherwise noted, all discharges are in cubic feet per second.

GRAND RIVER AT GLENWOOD SPRINGS.

Location.—At Glenwood Springs, at the point where the discharge from the hot springs enters the river. No Name Creek enters Grand River about 2 miles above the station and Roaring Fork enters one-half mile below.

Records Available.—May 12, 1899, to November 30, 1914.

Drainage Area.—4,520 square miles.

Gage.—Chain gage originally installed at the railroad bridge just above the Roaring Fork, but in 1900 a staff gage was installed at the present location. Since 1902 a number of automatic gages referred to the staff gage datum have been used, the present one being a Friez gage.

Channel.—Slightly shifting.

Discharge Measurements.—Made from a car and cable stretched beneath the State Street Bridge, which crosses the river one-third mile below the gage.

Winter Flow.—Ice never forms at the station, as the hot water from the springs keeps the water above the freezing point.

Artificial control.—The Shoshone power plant of the Central Colorado Power Co., 6 miles above Glenwood Springs, has sufficient pondage to withhold the flow of the river for a portion of the day during low-water periods.

Diversions.—Between this station and the one near Kremming there are court decrees for a diversion of 13 second-feet from Grand River and 1,508 second-feet from the intervening tributaries.

Accuracy.—Conditions are favorable for accurate results and the estimates are considered reliable.

Co-operation.—Station maintained by the United States Geological Survey, in co-operation with the United States Forest Service and Central Colorado Power Co. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS OF GRAND RIVER AT GLENWOOD SPRINGS.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
Jan. 20	Follansbee-Fletcher...	3.61	994	Jan. 11	R. H. Fletcher.....	3.10	597
Jan. 21	Robert Follansbee....	2.34	246	Oct. 15	Robert Follansbee....	4.15	1520
May 2	R. H. Fletcher.....	6.68	6050				
Sept. 5	R. H. Fletcher.....	4.00	1270				

GRAND RIVER NEAR PALISADES.

Location.—At the State bridge 2 miles above Palisades, about sec. 3, T. 11 S., R. 98 W. Nearest important tributary, Plateau Creek, enters about 6 miles above the station.

Records Available.—April 9, 1902, to November 30, 1914.

Drainage Area.—8,550 square miles.

Gage.—Chain gage; location and datum unchanged.

Channel.—Practically permanent.

Discharge Measurements.—Made from bridge to which the gage is attached. Prior to 1906 measurements were made from the suspension bridge at Palisades, where conditions were less favorable for accurate determination of discharge.

Winter Flow.—The river usually freezes over a portion of the year, but except for slush and ice and an occasional thin ice cover the effect on the gage heights is slight.

Diversions.—There are court decrees for diversions of 420 second-feet from Grand River and 2,500 second-feet from intervening tributaries between Palisades and the Glenwood Springs station. The proposed high line canal of the United States Reclamation Service will divert 700 second-feet 7 miles above the Palisades station. Below the station the Grand Valley Irrigation Co. has a diversion of 400 second-feet.

Accuracy.—Conditions are favorable for accurate results, and the estimates should be reliable.

Co-operation.—Station maintained by the United States Reclamation Service in co-operation with the United States Geological Survey, by whom records were furnished.

DISCHARGE MEASUREMENTS ON GRAND RIVER NEAR PALISADES.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913			
July 8	Page and Page.....	14.3	4440
Sept. 17	Page and Anderson...	13.2	2340
May 12	Page and Thomas....	12.6	1640

GRAND RIVER NEAR FRUITA.

Location.—At highway bridge, $1\frac{1}{2}$ miles south of Fruita, in sec. 20, T. 1 N., R. 2 W., Ute principal meridian. Nearest important tributary, Little Salt Wash, enters a mile below the station; Gunnison River enters at Grand Junction, about 12 miles above.

Records Available.—Flood records during 1908, 1909, and 1910; May 4, 1911 (station established), to November 30, 1914.

Drainage Area.—16,800 square miles.

Gage.—Chain gage; datum was raised 0.05 foot May 3, 1911.

Channel.—Practically permanent.

Discharge Measurements.—Made from the highway bridge.

Winter Flow.—The river is frozen over during a portion of the year and readings are taken to water surface through a hole in the ice.

Diversions.—Between the Palisades station and Fruita nearly 500 second-feet are diverted during the irrigation season.

Maximum Stage.—Since the establishment of the station the maximum stage has been 15.0 feet, which occurred June 9, 1909. The highest stage known was about 18.5 feet on July 4, 1884.

Accuracy.—Results considered good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Weather Bureau. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON GRAND RIVER NEAR FRUITA.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
May 5	R. H. Fletcher.....	7.35	13800	May 28*	Robert Follansbee.....	12.80	47600
Sept. 2	R. H. Fletcher.....	2.40	2320	Aug. 23†	M. D. Anderson.....	4.81	7230
				Oct. 16	Robert Follansbee.....	4.28	4870
				Dec. 14	R. H. Fletcher.....	2.77	2530

*Sub-surface method.

†Results too large as insufficient weight was used.

Discharge of Grand River at Glenwood Springs for 1913.
Drainage Area, 4,520 Square Miles. Altitude, 5,747 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		741	587	2120	5120	12100	4240	2060	1370	1400	1110	857
2		735	426	3320	5480	11600	3880	1940	1270	1500	1150	803
3		782	463	3820	5300	10600	3630	1800	1050	1790	1090	798
4		667	480	2770	4760	9620	3410	1750	1030	1740	1050	800
5		647	491	2110	4550	8920	3260	1630	1070	1710	1130	785
6		681	474	1930	4950	8370	3130	1560	1310	1820	1130	775
7		606	502	2540	5700	7740	2970	1570	1360	1780	1110	757
8		621	573	2630	6310	6730	2900	1610	1560	1650	1100	785
9		556	701	2040	6190	6420	2830	1610	1680	1540	1200	715
10		613	907	1420	6210	6550	2870	1610	1700	1520	1050	667
11		641	696	1220	6930	7430	2940	1610	1730	1490	1000	618
12		609	782	1260	8140	8220	2900	1610	1580	1440	1060	623
13		649	823	1420	8870	7140	2660	1640	1440	1420	1080	616
14		665	698	1780	8840	6310	2450	1620	1360	1480	1290	612
15		703	691	2670	7470	6080	2400	1460	1290	1510	1250	529
16		650	710	3820	5140	6440	2540	1350	1380	1480	1180	597
17		696	710	4120	5610	6650	2360	1260	1510	1430	1200	652
18		782	710	4320	5730	6680	3410	1230	1440	1390	1010	688
19		679	740	4300	6280	7240	3620	1120	1320	1390	1000	664
20	890	705	740	4540	6550	7400	3730	1170	1290	1390	1090	600
21	714	665	790	4420	6120	6760	3410	1190	1270	1240	1070	650
22	841	612	755	4430	5600	6320	3510	1260	1380	1190	1080	640
23	773	601	733	3980	5550	6000	3460	1260	1450	1190	900	630
24	784	743	810	3300	6470	5700	4270	1230	1430	1190	850	600
25	694	622	734	2820	7820	5590	4660	1210	1430	1210	803	542
26	627	725	748	2660	8820	5290	4010	1150	1390	1220	984	723
27	805	676	711	2570	9940	5120	3450	1200	1400	1180	1030	770
28	706	698	695	2940	10300	5020	3070	1130	1400	1160	1010	704
29	749		830	3680	10400	4840	2670	940	1430	1100	998	660
30	701		778	4500	11100	4690	2410	1180	1360	1090	883	629
31	757		1370		11500		2220	1280		1080		639
Mean	753	674	705	2980	7020	7120	3220	1430	1390	1410	1060	682
Run-off acre-feet	17900	37400	43300	177000	432000	424000	198000	87900	82700	86700	63100	41900

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Grand River at Glenwood Springs for 1914.
Drainage Area, 4,520 Square Miles. Altitude, 5,747 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	652	672	770	1340	3490	26700	8870	4570	2240	1410	1290	778
2.....	670	752	816	1450	3680	28700	8530	4570	2160	1480	1450	707
3.....	848	770	816	1930	3580	29700	7880	4280	2080	1480	1350	628
4.....	705	770	783	2300	3770	28200	7880	4080	2010	1480	1350	623
5.....	716	790	776	2620	4060	25700	8200	3720	1860	1640	1110	661
6.....	717	773	740	2960	4360	22700	8530	3460	1720	1540	1220	673
7.....	702	756	759	2780	4360	20200	7870	3200	1670	1480	1190	752
8.....	674	740	760	2460	4680	17700	6980	2950	1530	1580	1160	693
9.....	703	746	849	2160	6170	14700	6430	2950	1540	1860	1160	712
10.....	757	746	860	1930	8530	13700	6170	2950	1540	1860	1110	585
11.....	684	752	833	1780	10300	15200	5920	2790	1570	1740	1060	564
12.....	613	758	764	1640	10300	18200	5680	2630	1540	1670	1010	598
13.....	616	752	725	1580	9220	20200	5560	2550	1520	1580	956	564
14.....	793	773	807	1860	8870	22200	5450	2390	1460	1580	947	545
15.....	744	770	823	2300	9220	22200	5450	2310	1650	1320	957	500
16.....	737	719	945	3130	9950	21700	5220	2160	1720	1580	1000	470
17.....	891	792	1190	3490	10700	20200	5000	2010	1650	1940	830	535
18.....	856	721	1250	3040	11500	19200	5220	2010	1720	1700	879	622
19.....	802	716	1140	2380	12800	19200	5340	2010	1590	1700	796	666
20.....	734	710	1140	2230	14700	19200	4890	2010	1660	1520	849	545
21.....	710	740	959	2620	17200	19700	4570	2080	1870	1620	782	580
22.....	734	796	936	3220	17700	18700	4890	2080	1900	1650	753	570
23.....	764	802	982	3400	19700	16700	5340	2390	2050	1790	760	580
24.....	783	770	994	3770	21700	15200	4780	2390	1840	1860	773	622
25.....	776	764	950	3310	22200	13700	4280	2160	1800	1940	769	606
26.....	783	752	978	3220	21200	12300	3990	2010	1490	1750	761	580
27.....	802	752	1240	3400	20700	11100	4080	2010	1460	1670	764	611
28.....	770	752	1740	3400	21700	9950	4470	2010	1340	1670	774	616
29.....	704		2000	3130	23200	9580	4470	2470	1340	1670	727	694
30.....	644		1640	3130	23200	9220	4370	2310	1340	1540	838	655
31.....	633		1390		24200		4570	2390		1510		611
Mean.....	733	754	1010	2600	12500	18700	5830	2710	1700	1640	979	618
Run-off acre-feet....	45100	41900	62100	155000	769000	1110000	358000	167000	101000	101000	58300	38000

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Grand River near Palisades for 1913.
Drainage Area, 8,550 Square Miles. Altitude, 4,730 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				3880	8950	20300	7880	2620	1370	2120	1640	1640
2.....				4920	9740	20300	7300	2390	1280	1880	1880	1420
3.....				5840	10600	18800	6470	2460	1480	2120	1940	1320
4.....				4810	8480	17800	6080	2250	1640	2320	1760	1370
5.....				3780	8340	17000	5840	2060	1480	2390	1760	1320
6.....			2700	2700	8180	15400	5360	1940	1480	2540	1760	1150
7.....			2540	4280	10700	13800	4920	1880	2250	2780	1880	1190
8.....			2390	4700	11500	13100	4920	1820	2320	2390	1700	1150
9.....			2120	4600	12000	13200	4700	1880	2460	2390	1640	1180
10.....			2320	3020	12400	13600	4700	1940	3300	2320	1530	1150
11.....			2390	3030	13800	14700	4500	2060	2780	2250	1530	1280
12.....			2460	3120	15000	14100	4390	1880	2460	2250	1580	1320
13.....			2390	3300	17000	13600	3980	2060	2320	2320	1640	1530
14.....			2120	3300	18000	10900	3480	2320	2320	2390	1760	1760
15.....			2120	3780	14700	10700	3390	2000	2320	2250	2540	1700
16.....			2000	5140	11900	12200	3390	1880	2250	2250	2120	1580
17.....			1940	6610	10700	11700	3580	1820	2460	2250	1640	1370
18.....			1880	7590	10600	12700	4700	1700	2390	2180	1880	1420
19.....			1580	7590	11400	13600	5600	1580	2250	2060	1760	1480
20.....			1530	7880	11200	13900	5080	1480	2120	2000	1640	
21.....			1480	8030	11200	13600	5360	1530	2060	2000	1820	
22.....			1370	8080	11400	11400	3390	1580	3780	2000	1760	
23.....			1480	7440	11500	10400	4810	1820	3300	1880	1700	
24.....			1420	6340	12700	10600	4810	1760	2540	1880	1530	
25.....			1640	5140	14100	10400	6880	1700	2390	1880	1370	
26.....			1700	4920	16400	10100	6340	1420	2390	1880	1370	
27.....			1760	4600	19000	9100	5140	1420	2250	1880	1370	
28.....			1580	5360	19900	9580	4700	2000	2250	1760	1480	
29.....			1700	6080	19500	9420	3980	1420	2000	1640	1760	
30.....			2060	7730	19700	8640	3390	1280	1940	1700	1580	
31.....			2180		20800		2780	1420		1640		
Mean.....			1960	5260	13300	13200	4930	1850	2250	2120	1710	1280
Run-off acre-feet.....			101000	312000	818000	788000	303000	114000	134000	130000	102000	52000

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Grand River at Palisades for 1914.
Drainage Area, 8,550 Square Miles. Altitude, 4,730 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....		1820	2120	2390	5720	37600	17400	8180	3580	2320	2460	1760
2.....		1880	2000	2250	7020	41800	16200	8640	3300	2250	2320	1320
3.....		1760	1940	2860	8030	42800	15000	7590	3210	3210	2620	1280
4.....		1880	1760	3390	6880	40400	14500	8030	3120	7880	2540	1280
5.....		1820	1580	4600	7880	37000	15600	6210	2860	4500	2320	1280
6.....		1760	1580	4600	8030	34000	15600	5480	2780	3580	2060	1420
7.....		1760	1640	4810	8640	32200	14700	4920	2540	3300	2180	1370
8.....		1760	1580	4080	9260	26800	12700	4700	2390	3300	2120	1420
9.....		1760	1640	3580	11500	23800	12400	4500	2540	5600	1940	1370
10.....		1760	1640	3390	15200	22100	12200	4600	2180	3780	2060	1370
11.....		1760	1760	3210	18600	22100	11700	4180	2250	3580	1940	1280
12.....		1760	1640	3120	19700	27900	11000	3980	2250	3390	1820	1230
13.....		1760	1580	2780	18400	32800	10400	3780	2320	3300	1700	1230
14.....		1760	1640	2940	17600	34000	10600	3480	2250	2860	1880	1280
15.....		1760	1760	3390	17600	33700	10400	3210	2390	3030	1640	1280
16.....		1760	1820	4500	17400	34300	9580	3030	2180	2860	1580	1280
17.....		1760	1760	5140	17600	33100	9100	3120	2540	2860	1760	
18.....		1760	1820	5080	19200	31300	8790	2860	2250	2860	1640	
19.....		1820	1920	4390	20800	31800	10100	2780	2250	2860	1700	
20.....		1820	2000	4080	23000	31300	10200	2860	2250	2860	1480	
21.....		2860	2320	4180	26000	33400	8790	3210	2460	2860	1820	
22.....		2940	1700	5140	29800	31300	8480	3030	2700	3030	1530	
23.....		1880	1320	5840	32800	27900	9100	3580	2390	3030	1480	
24.....		1880	1580	6080	37000	26800	8790	3480	2700	3030	1320	
25.....		1820	1880	5960	38800	25300	7300	3120	2320	3030	1480	
26.....		1530	2900	5600	33700	21900	7020	3210	2540	3030	1370	
27.....		1640	2900	5720	32800	19700	6880	3580	2390	3030	1420	
28.....		2250	2120	6080	33400	17800	7590	3210	2120	3030	1580	
29.....			2390	5600	33400	17800	8330	3390	2390	2860	1760	
30.....			2700	5480	34300	18000	7740	3390	2320	2700	1530	
31.....			2540		36100		8030	3580		2700		
Mean.....		1870	1870	4340	20600	29700	10600	4290	2530	3310	1840	
Run-off acre-feet.		104060	115000	258000	1280000	1770000	664000	264000	151600	204000	109060	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Grand River near Fruita for 1913.
Drainage Area, 16,800 Square Miles. Altitude, 4,500 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				7200	16600	26000	10500	4110	2370	4020	3220	2750
2.....				8410	17600	26000	9340	3610	2370	4020	3220	2750
3.....				9200	16400	24800	8800	3380	2320	4200	3380	2750
4.....				8930	15000	23300	8280	3680	2520	4470	3380	2820
5.....				6970	14000	21900	7670	3080	2520	4470	3300	2880
6.....				7320	15000	20200	7430	2940	2470	4560	3150	3010
7.....				7200	17600	18900	7080	2750	2880	4660	3150	2750
8.....				8160	19400	17400	6520	2520	3180	4560	3010	2820
9.....				7430	19200	15900	6300	2630	3480	4380	3080	2690
10.....				6410	18900	16600	6080	2690	3780	4290	3080	2580
11.....				5050	20200	17600	6190	2370	4080	4290	2940	2420
12.....			4200	5050	22700	20000	6300	2420	4380	4290	2880	2370
13.....			3940	5760	24500	19700	6190	2580	4200	4110	3450	2230
14.....			3300	7670	24200	16400	5450	2880	3860	4110	3860	
15.....			2880	9340	21300	15000	4850	2940	3860	4200	3770	
16.....			2880	11900	17600	15700	4760	2750	3770	4110	3450	
17.....			2820	14200	15500	16600	5250	2580	3770	4110	3220	
18.....			3150	15200	15200	16900	5870	2370	3860	3860	3380	
19.....			2940	15500	16600	17400	6630	2280	3770	3690	3150	
20.....			3220	16400	17900	18100	7790	2140	3530	3530	3220	
21.....			3300	16600	16400	17600	8280	2100	3300	3450	3300	
22.....			2940	16200	14000	16400	7430	2320	3300	3450	3380	
23.....			2880	14200	13500	15200	7670	2630	4950	3450	3220	
24.....			3010	12900	15500	14600	8160	2520	4950	3450	3010	
25.....			2630	11200	18400	14000	8670	2630	4760	3450	2690	
26.....			2750	9480	21300	12900	8410	2690	4470	3450	2690	
27.....			2690	8670	24500	12400	7670	2320	4470	3300	3080	
28.....			2630	10700	27300	12200	6410	2370	4470	3150	3220	
29.....			2630	13100	25700	11900	5660	2370	4110	3150	3080	
30.....			3690	16200	26300	12200	4760	2100	4290	3150	2940	
31.....			5350		26900		4470	2420		3150		
Mean.....			3190	10400	19200	17800	6930	2660	3670	3890	3200	2680
Run-off acre-feet...			126000	619000	1180000	1060000	426000	164000	218000	239000	190000	66100

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Grand River near Fruita for 1914.
Drainage Area, 16,800 Square Miles. Altitude, 4,500 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			3300	3610	11000	53600	22700	12000	6020	3510	4010	
2.....			3940	3610	11700	58100	21600	12000	5570	3510	4010	
3.....			3150	4110	12800	58100	20500	11000	5150	3660	4010	
4.....			3010	5050	13100	56600	20000	9770	4750	16400	4010	
5.....			2880	6080	15900	52200	21600	9480	4750	8090	4010	
6.....			2880	7430	16400	47700	21600	8640	4370	6510	3660	
7.....			2880	8670	17400	44800	20500	7550	4010	5360	3830	
8.....			3010	8100	18400	40300	18400	7020	3660	5570	3510	
9.....			3300	7430	23300	35200	17400	7550	3660	8090	3660	
10.....			3300	6740	30300	33100	16400	8920	3490	8090	3510	
11.....			3450	6740	35900	33800	15500	7820	3660	6020	3360	
12.....			3150	6300	35900	38800	14600	8360	3490	5570	3510	
13.....			3010	5870	31700	44000	13800	6020	3490	5570	3220	
14.....			3010	6300	32400	47000	14600	5570	3490	5150	3360	
15.....			3010	7430	33100	47700	14600	5150	3330	5150	3220	
16.....			3150	9480	32400	48500	13800	4750	3660	4750	3220	
17.....			3610	11700	31700	46200	13100	4370	3660	4860	3360	
18.....			3940	10400	32400	43300	12400	4190	3660	4750	2970	
19.....			4110	8670	34500	43300	15500	4010	3490	4560	3090	
20.....			3770	8160	37400	43300	17900	3830	3330	4560	2760	
21.....			3610	9200	40300	44300	15900	3660	4010	4560	2760	
22.....			3300	11000	44000	41800	13800	4010	4010	4560	2860	
23.....		4470	3150	11700	47700	39200	14600	5360	4010	5150	2760	
24.....		3300	3300	12400	52200	35900	13800	5790	4190	5150	2860	
25.....		3150	3300	11700	53600	33100	12000	5360	4010	5150	2760	
26.....		2750	3610	11700	49200	31700	10700	5360	3830	5150	2760	
27.....		2630	3300	12400	47700	28900	10400	6760	3660	4750	2860	
28.....		2520	3610	11700	49200	25100	11000	6510	3490	4750	2760	
29.....			3940	10400	48500	24500	12400	6020	3330	4750	2970	
30.....			4110	10400	47700	23900	12400	6020	3330	4190	2970	
31.....			4290		50700		12000	5790		4190		
Mean.....		3140	3400	8480	33500	41400	15700	6730	3950	5540	3290	
Run-off acre-feet...		37300	209000	505000	2060000	2460000	965000	414000	235000	321000	196000	

Unless otherwise noted, all discharges are in cubic feet per second.

FRASER RIVER NEAR ARROW.

Location.—One-fourth mile from Idlewild ranger station, in the Arapahoe National Forest, in sec. 3, T. 2 S., R. 75 W., sixth principal meridian, 2 miles from Arrow.

Records Available.—September 23, 1910, to November 5, 1914.

Gage.—Vertical staff whose location and datum have remained unchanged.

Channel.—Shifting after high water.

Discharge Measurements.—Made from log bridge to which the gage is attached.

Winter Flow.—The control remains open during the greater part of the winter and there is little if any backwater at the gage except for short periods.

Diversions.—There is a court decree for the diversion of 53 second-feet across the divide from the headwaters above the station. There are court decrees for diversions of 72 second-feet from Fraser River below.

Accuracy.—Owing to the high altitude of the drainage basin it is probable that at certain seasons there are diurnal fluctuations caused by the alternate melting and freezing. Therefore the mean daily gage height as determined by one or two readings may be considerably in error, and the estimates of discharge can not be considered better than fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON FRASER RIVER NEAR ARROW.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 13	R. H. Fletcher.....	1.65	85	May 14	R. H. Fletcher.....	1.22	40
July 3	R. H. Fletcher.....	1.42	66	June 2	R. H. Fletcher.....	2.70	458
Aug. 1	R. H. Fletcher.....	1.20	37	June 5	R. H. Fletcher.....	2.40	383
Oct. 1	Robert Follansbee....	1.17	32	June 6	R. H. Fletcher.....	2.20	314
Oct. 2	Robert Follansbee....	1.11	28	Aug. 3	M. D. Anderson.....	1.23	74
				Aug. 4	M. D. Anderson.....	1.21	69

WILLIAMS FORK NEAR SCHOLL.

Location.—About 5 miles southeast of Scholl, Colo., in sec. 3, T. 2 S., R. 78 W., at the Horseshoe ranger station in the Arapahoe National Forest. Nearest important tributary, the South Fork, enters from the east three-quarter mile above the station.

Records Available.—September 22, 1910, to November 30, 1914.

Drainage Area.—141 square miles.

Gage.—Vertical staff.

Channel.—Data too meager to determine.

Discharge Measurements.—Made by wading a short distance below the gage.

Winter Flow.—Ice causes some backwater during the winter months.

Diversions.—There are court decrees for the diversion of 858 second-feet from Williams Fork above the station. Of this amount 700 second-feet are to be diverted to the eastern slope. This latter diversion has not yet been made.

Accuracy.—Results are considered good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS OF WILLIAMS FORK RIVER NEAR SCHOLL.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 12	R. H. Fletcher.....	2.40	393	Mar. 8	R. H. Fletcher.....	1.02	41
July 2	R. H. Fletcher.....	2.20	310	May 19	R. H. Fletcher.....	2.65	586
Oct. 8	R. H. Fletcher.....	1.36	74	June 4	R. H. Fletcher.....	3.65	1150
				Aug. 5	M. D. Anderson.....	2.05	199
				Aug. 27	Robert Follansbee....	1.81	110
				Oct. 19	R. H. Fletcher.....	1.56	70

WILLIAMS FORK NEAR PARSHALL.*

Location.—On highway bridge at Field's ranch, 4 miles above the mouth of the river, about sec. 36, T. 1 N., R. 79 W. Nearest tributary is a small stream that enters from the west 2 miles below the station.

Records Available.—July 25, 1904, to November 30, 1914.

Drainage Area.—185 square miles (measured from Forest atlas).

Gage.—Vertical staff; location and datum unchanged.

Channel.—Shifting after high water.

Discharge Measurements.—Made from bridge to which the gage is attached.

Winter Flow.—The main channel is kept open by springs, but ice forms along the edges and slush ice frequently forms. The morning readings are usually affected by backwater from ice, but the afternoon readings are practically unaffected.

Diversions.—There are court decrees for the diversion of 502 second-feet from Williams Fork between this station and the one near Scholl, and 25 second-feet from tributaries. There is also a storage decree for 80,700 acre-feet from Williams Fork.

Accuracy.—Conditions are favorable for accurate results, and the estimates should be reliable.

Co-operation.—Station maintained in co-operation with the United States Geological Survey.

*Formerly designated Williams Fork near Sulphur Springs.

DISCHARGE MEASUREMENTS ON WILLIAMS FORK NEAR PARSHALL.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 26*	C. L. Chatfield.....		45	Jan. 23	R. H. Fletcher.....	2 92	49
May 12	R. H. Fletcher.....	4.07	413	Mar. 8	R. H. Fletcher.....	2.85	44
July 2	R. H. Fletcher.....	3.80	273	May 18	R. H. Fletcher.....	4.20	488
Oct. 8	Robert Follansbee....	3.19	90	June 4	R. H. Fletcher.....	4.97	1360
				Aug. 5	M. D. Anderson.....	3.34	156
				Aug. 27	Robert Follansbee....	3.15	117
				Oct. 19	R. H. Fletcher.....	3.00	86

*Ice conditions.

Discharge of Fraser River near Arrow for 1913.
Drainage Area, 16 Square Miles. Altitude, 9,500 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					18	230	79	50	30	40	16	
2.....					36	298	79	48	28	33	16	
3.....					36	210	79	44	26	33	26	
4.....					36	238	64	50	33	44	24	
5.....					31	148	64	44	38	37	26	
6.....					33	148	64	40	33	30	28	
7.....					46	136	61	38	44	28	20	
8.....					46	136	61	38	57	28	26	
9.....					58	115	67	33	48	28	26	
10.....					52	115	67	33	40	33	24	
11.....					58	159	76	33	44	38	24	
12.....					71	126	57	33	44	40	16	
13.....					75	115	57	38	33	33	19	
14.....					71	115	57	33	38	26	22	
15.....					52	115	57	30	44	24	16	
16.....					52	115	57	30	50	24	14	
17.....					64	106	76	29	49	24	13	
18.....					64	106	72	28	48	24	13	
19.....					71	115	64	28	44	24	13	
20.....					71	115	57	28	38	24	13	
21.....					58	115	72	28	33	16	13	
22.....					52	106	64	26	33	19	13	
23.....					64	106	68	26	36	16	13	
24.....					18	78	115	72	33	33	19	13
25.....					22	107	96	72	26	33	44	13
26.....					10	136	88	72	24	28	24	13
27.....					16	131	96	67	24	28	28	13
28.....					22	121	96	57	26	28	33	13
29.....					22	154	79	57	24	28	53	13
30.....					22	230	79	57	24	30	57	13
31.....						228		53	26		36	
Mean.....					18.8	81.0	131	65.4	32.7	37.3	31.0	17.5
Run-off acre-feet.....					261	4980	7800	4020	2010	2220	1910	1040

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Fraser River near Arrow for 1914.
Drainage Area, 16 Square Miles. Altitude 9,500 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				10	10	445	184	82	46	26	20	
2.....		9	7	10	9	473	169	78	42	26	20	
3.....				10	10	507	136	75	40	26	23	
4.....				9	10	507	130	74	40	25	23	
5.....	8	10	6	9	13	422	123	69	35	24	23	
6.....				9	13	338	116	74	34	23		
7.....				9	13	322	110	72	34	23		
8.....	8			10	20	306	106	70	30	23		
9.....		9	4	10	28	275	105	70	30	23		
10.....				8	39	275	101	70	28	23		
11.....				7	50	291	98	66	28	23		
12.....	8	5	4	7	44	306	98	62	28	23		
13.....				7	38	338	99	59	28	23		
14.....				8	44	354	101	59	28	23		
15.....	4			10	50	371	98	56	28	23		
16.....		6	4	10	48	354	82	50	28	20		
17.....				10	54	354	82	45	28	20		
18.....				10	61	338	81	40	28	20		
19.....	8	5	5	10	67	338	84	42	28	20		
20.....				9	82	338	87	42	28	20		
21.....				12	106	322	86	42	28	22		
22.....	7			13	164	306	98	40	28	23		
23.....		8	8	13	247	306	92	40	28	23		
24.....				14	257	275	87	40	26	22		
25.....				13	267	275	84	40	26	22		
26.....	8	9	9	12	330	239	81	41	26	23		
27.....				10	362	219	78	40	26	23		
28.....				10	375	213	72	41	26	23		
29.....	8			10	412	206	69	46	26	23		
30.....			10	13	385	199	76	44	26	20		
31.....					415		82	41		20		
Mean.....	7.4	7.6	6.3	10.1	130	327	99.8	55.2	30.2	22.6	21.8	
Run-off acre-feet.....	455	422	387	601	7990	19500	6140	3390	1800	1390	120	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Williams Fork River near Scholl for 1913.
Drainage Area, 141 Square Miles. Altitude, 9,000 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					190	770	322	111	84	102	68	48
2.....					175	710	280	111	84	102	61	54
3.....					160	680	280	111	84	92	61	48
4.....					160	620	260	111	135	92	68	48
5.....					160	620	242	111	111	76	61	48
6.....					208	590	242	111	111	92	61	50
7.....					208	505	225	92	111	92	61	50
8.....					242	478	225	92	111	84	61	55
9.....					242	450	225	92	102	76	61	55
10.....					260	505	225	102	92	92	54	55
11.....					300	680	208	111	92	111	61	60
12.....					370	532	190	123	92	76	68	60
13.....					345	478	160	102	76	92	61	61
14.....					300	478	175	92	84	92	61	54
15.....					260	505	190	92	135	84	61	54
16.....					260	505	190	84	123	76	42	48
17.....					280	505	225	76	102	68	68	48
18.....					322	560	225	76	84	68	61	48
19.....					322	620	208	76	76	76	61	48
20.....					300	560	190	84	76	68	61	37
21.....					260	505	208	84	76	68	54	42
22.....					280	505	175	76	76	76	42	42
23.....					370	478	225	84	76	76	42	48
24.....					422	478	225	84	76	76	68	48
25.....					478	422	175	76	84	76	84	48
26.....					532	395	160	84	92	54	54	48
27.....				111	560	395	160	84	92	61	42	48
28.....				160	560	395	135	84	76	76	48	48
29.....				160	680	370	135	92	76	48	42	48
30.....				208	770	322	135	76	76	48	68	42
31.....					800		123	92		68		48
Mean.....				160	348	521	205	89.5	92.2	78.6	58.9	49.6
Run-off acre-feet.....				1270	21400	31000	12800	5500	5490	4830	3500	3050

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Williams Fork River near Scholl for 1914.
Drainage Area, 141 Square Miles. Altitude, 9,000 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	42	36	39	44	131	1560	800	248	103	75	55	
2.....	42	34	45	45	138	1600	710	248	96	72	53	
3.....	42	33	40	52	146	1390	680	248	85	74	43	
4.....	42	34	48	51	154	1260	680	232	82	67	39	
5.....	42	34	46	57	162	1160	710	214	75	61	38	
6.....	37	36	42	60	157	1120	620	199	75	61	37	
7.....	37	36	42	60	188	962	620	188	75	64	39	
8.....	37	36	41	57	270	865	545	188	66	68	40	
9.....	37	34	36	55	370	865	545	188	66	75	46	
10.....	42	37	39	55	445	962	545	188	64	68	44	
11.....	48	34	42	55	450	1060	490	155	64	68	42	
12.....	48	34	42	48	450	1160	480	137	64	64	44	
13.....	48	36	42	60	385	1290	480	137	75	72	40	
14.....	42	34	42	72	385	1420	430	125	78	61	39	
15.....	37	34	40	85	410	1460	420	125	75	61	44	
16.....	37	38	48	87	450	1290	420	112	80	59	44	
17.....	37	34	44	80	460	1320	445	107	72	72	44	
18.....	34	31	44	73	490	1260	445	107	72	59	46	
19.....	37	31	40	62	538	1290	420	107	64	72	44	
20.....	42	33	42	90	620	1360	370	107	64	74	45	
21.....	37	31	37	94	705	1320	360	107	100	72	45	
22.....	36	34	48	102	795	1290	370	112	87	77	46	
23.....	34	31	50	109	855	1220	352	108	75	85	47	
24.....	34	31	45	111	985	1190	300	99	64	72	45	
25.....	33	39	44	104	920	1190	275	96	62	74	46	
26.....	34	33	42	109	952	1040	275	90	62	74	43	
27.....	36	34	42	105	1020	930	305	99	62	67	42	
28.....	29	33	44	104	1180	898	290	104	62	64	40	
29.....	30		42	124	1120	865	280	110	60	64	30	
30.....	32		39	131	1250	832	262	116	61	64	37	
31.....	34		46		1500		280	99		61		
Mean.....	38.0	34.1	42.7	78.0	583	1180	458	145	73.0	68.4	42.9	
Run-off acre-feet.....	2340	1890	2630	4640	35800	70200	28200	8920	4340	4210	2550	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Williams Fork near Parshall for 1913.
Drainage Area, 198 Square Miles. Altitude, 7,800 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					271	795	364	102	83	127	80	59
2					250	850	332	106	76	122	73	56
3					218	690	313	102	100	110	76	53
4					195	740	303	106	94	122	73	56
5					225	600	284	98	87	115	68	56
6					246	600	241	94	115	112	68	56
7					275	560	218	90	142	102	73	63
8					298	525	203	87	100	92	60	65
9					284	490	195	90	106	96	70	61
10					313	525	188	100	112	100	68	61
11				90	374	640	178	87	90	80	73	
12				78	430	560	169	122	83	98	76	
13				87	374	490	162	94	82	94	82	
14				92	369	525	175	88	75	108	82	
15				148	303	490	178	87	134	110	75	
16				162	343	490	165	87	120	94	49	
17				188	313	490	218	73	94	87	75	
18				210	343	525	206	76	90	83	69	
19				218	353	600	203	75	82	76	70	
20				210	333	525	218	75	75	90	69	
21				218	298	525	206	83	76	88	70	
22				185	267	490	169	80	73	92	63	
23				151	364	490	175	76	94	80	36	
24				110	374	460	258	75	115	80	49	
25				129	430	430	206	76	88	90	76	
26				132	525	430	210	76	82	66	72	
27				127	600	402	195	75	75	63	56	
28				182	600	402	172	98	92	76	58	
29				182	690	430	145	80	92	58	57	
30				246	795	369	129	75	94	73	51	
31					740		108	-79		88		
Mean				157	380	538	209	87.5	94	92.6	67.2	58.6
Run-off acre-feet				6230	23400	32000	12900	5380	5590	5690	4000	1160

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Williams Fork near Parshall for 1914.
Drainage Area, 198 Square Miles. Altitude, 7,800 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	66	51	43	59	145	1550	735	232	117	81	94	
2	70	61	43	60	148	1610	645	228	107	79	94	
3	60	63	43	68	124	1500	645	200	101	77	81	
4	60	60	40	76	151	1210	645	187	94	74	80	
5	58	61	44	75	180	1160	645	169	94	71	91	
6	57	57	54	70	175	1100	605	158	89	69	80	
7	57	63	49	68	180	940	530	152	87	77	77	
8	49	58	44	63	233	835	565	152	87	85	75	
9	54	54	51	63	322	785	495	150	91	91	66	
10	49	60	54	65	402	835	465	145	86	86	64	
11	60	63	42	63	374	992	435	143	80	82	65	
12	54	54	40	68	374	1100	435	134	81	86	64	
13	49	46	39	70	369	1160	435	125	76	94	68	
14	54	45	40	96	369	1440	435	123	75	86	69	
15	49	44	52	115	374	1440	424	117	87	94	85	
16	51	43	40	140	460	1100	402	115	91	96	75	
17	49	44	66	117	460	1160	351	113	89	92	75	
18	49	42	50	90	460	1100	371	109	86	91	65	
19	49	43	50	80	490	1210	341	107	80	89	72	
20	46	47	51	102	525	1260	308	105	76	94	75	
21	49	49	43	129	640	1210	313	101	87	94	65	
22	58	46	39	120	795	1210	294	113	91	98	65	
23	57	47	43	151	850	1040	277	107	87	107	82	
24	51	47	50	129	1020	1040	251	101	87	98	73	
25	58	43	50	115	1020	888	260	94	82	101	73	
26	50	41	50	129	960	835	224	98	80	98	73	
27	49	44	53	129	1070	785	221	113	81	98	73	
28	49	48	50	129	1240	835	221	103	86	98	75	
29	42		50	122	1070	835	236	138	82	98	67	
30	49		53	132	1240	735	228	121	82	98	70	
31	50		52		1240		268	115		94		
Mean	53.3	50.9	47.4	96.4	563	1100	410	134	87.3	89.6	74.4	
Run-off acre-feet	3280	2830	2910	5740	34600	65500	25200	8240	5190	5510	4430	

Unless otherwise noted, all discharges are in cubic feet per second.

BLUE RIVER AT DILLON.

Location.—At the cemetery bridge on the outskirts of Dillon, in sec. 18, T. 5 S., R. 77 W., on the edge of the Leadville National Forest, a short distance above the mouth of Snake River. Ten-mile Creek also enters below the station.

Records Available.—October 15, 1910, to November 30, 1914.

Drainage Area.—110 square miles.

Gage.—Vertical staff; location and datum unchanged.

Channel.—Practically permanent.

Discharge Measurements.—Made by wading near by.

Winter Flow.—Ice causes backwater during the winter and discharge measurements are made to determine the flow.

Diversions.—There are court decrees for diversions of 2.3 second-feet from Blue River above the station and 68 second-feet below. There is an unadjudicated diversion from the headwaters of the Blue across Boreas Pass to Tarryall Creek. There are also decrees for diversions of 5 second-feet from tributaries entering above. In addition, there are decrees for placer mining, where practically all of the water used is returned to the river.

Accuracy.—Owing to the high altitude of this station alternate melting and freezing is likely to cause considerable diurnal fluctuations at certain seasons of the year, and the mean daily gage height based on one gage reading may be considerably in error. For this reason it is probable that the estimates cannot be considered better than fair for certain months.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON BLUE RIVER AT DILLON.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
Apr. 27	R. H. Fletcher.....	1.80	70	June 10	Robert Follansbee....	3.39	655
June 23	R. H. Fletcher.....	2.80	385	Aug. 19	Robert Follansbee....	2.28	138
Oct. 15	Robt. F. Follansbee..	1.78	64	Sept. 12	S. C. Hulse.....	2.00	92
				Sept. 30	Follansbee & Hulse...	1.86	68

TEN-MILE CREEK AT DILLON.

Location.—At the highway bridge in Dillon, Colo., in sec. 18, T. 5 S., R. 77 W., 300 yards above the mouth of the creek. Nearest tributary, Canon Creek, enters from the west about 4 miles above the station.

Records Available.—October 15, 1910, to November 18, 1914.

Drainage Area.—113 square miles (measured from Forest Atlas).

Gage.—Vertical staff; location and datum unchanged.

Channel.—Practically permanent.

Discharge Measurements.—Made by wading near the bridge.

Winter Flow.—Ice causes backwater during the winter months, and discharge measurements are made to determine the flow during that period.

Diversions.—There are court decrees for diversions of 3.7 second-feet from Ten-mile Creek above the station and 14.5 second-feet from tributaries entering above.

Accuracy.—Owing to the high altitude of this station alternate melting and freezing are likely to cause considerable diurnal fluctuations at certain seasons of the year, and the mean daily gage height based on one gage reading may be considerably in error. For this reason it is probable that the estimates can not be considered better than fair for certain months.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS TEN-MILE CREEK AT DILLON.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 26	R. H. Fletcher.....	1.95	63	June 10	Robt. Follansbee	3.36	795
June 23	R. H. Fletcher.....	2.80	362	Aug. 19	Robt. Follansbee.....	2.06	82
Oct. 15	Robt. Follansbee.....	1.85	53	Sept. 12	S. C. Hulse.....	1.90	56

SNAKE RIVER AT DILLON.

Location.—At a highway bridge 200 yards above the mouth of the river in sec. 18, T. 5 S., R. 77 W. Nearest tributary is a small stream that enters from the north 1 mile above the station.

Records Available.—October 15, 1910, to November 18, 1914.

Drainage Area.—92 square miles (measured from Forest Atlas).

Gage.—Vertical staff; location and datum unchanged.

Channel.—Practically permanent.

Discharge Measurements.—Made by wading above the bridge.

Winter Flow.—Ice gorging causes backwater of varying amount. During 1912 the control remained open most of the winter.

Diversions.—There are court decrees for diversions of 4.5 second-feet from Snake River above the station and 11 second-feet from tributaries entering above.

Accuracy.—Owing to the high altitude of this station, alternate melting and freezing are likely to cause considerable diurnal fluctuations at certain seasons of the year, and the mean daily gage height based on one gage reading may be considerably in error. For this reason it is probable that the estimates cannot be considered better than fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON SNAKE RIVER AT DILLON.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 27	R. H. Fletcher.....	0.85	21	Jan. 8	R. H. Fletcher.....	0.96	21
June 23	R. H. Fletcher.....	1.70	224	Feb. 10	R. H. Fletcher.....	0.98	26
Oct. 15	Robert Follansbee....	.85	22	June 10	Robert Follansbee....	2.25	459
				Aug. 18	Robert Follansbee....	1.23	77
				Sept. 12	S. C. Hulse.....	0.88	30
				Sept. 30	Follansbee and Hulse.	0.70	16

Discharge of Blue River at Dillon for 1913.
Drainage Area, 110 Square Miles. Altitude, 8,815 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.					208	467	305	110	70	86	56	
2.					225	462	285	106	70	86	57	
3.					191	458	265	106	78	86	58	
4.					215	435	255	106	78	86	56	
5.					240	435	245	106	86	84	53	
6.					265	424	235	106	132	83	56	
7.					255	412	225	96	179	80	58	
8.					245	424	222	86	225	78	58	
9.					226	435	218	86	208	78	57	
10.					208	446	208	101	191	78	57	
11.						458	208	116	191	78	56	
12.						480	208	131	176	74	53	
13.						502	208	118	161	70	53	
14.						480	208	102	151	69	50	
15.						491	200	86	141	68	53	
16.						502	191	86	131	68	52	
17.						525	200	86	106	68	50	
18.						548	208	86	102	64	49	
19.						390	225	86	99	64	48	
20.					265	401	235	86	96	64	48	
21.				131	245	412	245	82	96	64	48	
22.				131	225	401	245	78	96	60		
23.				86	305	390	235	78	96	58		
24.				70	345	390	225	76	96	58		
25.				74	402	390	191	73	93	58		
26.				78	458	379	176	70	90	58		
27.				70	458	368	161	78	90	58		
28.				86	458	345	146	70	88	58		
29.				146	469	335	131	70	87	58		
30.				225	480	325	120	70	86	58		
31.					473		113	70		57		
Mean				110	312	430	211	90.5	120	69.6	53.6	
Run-off acre-feet				2180	13600	25600	13000	5560	7140	4280	2230	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Blue River at Dillon for 1914.
Drainage Area, 110 Square Miles. Altitude, 8,815 Feet Above
Sea Level

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					96	1140	392	362	142	60	54	
2.....					99	1200	404	355	142	58	54	
3.....					103	1180	415	348	118	58	54	
4.....					106	1130	399	324	115	58	54	
5.....					142	1080	382	281	106	54	50	
6.....					191	945	365	281	106	54	49	
7.....					202	805	348	260	104	54	48	
8.....					214	665	348	220	88	49	48	
9.....					225	570	348	205	88	46	48	
10.....					275	665	328	190	74	46	48	
11.....					325	940	308	184	74	46	48	
12.....					354	968	314	178	92	46	48	
13.....					383	995	320	168	97	60	48	
14.....					412	980	326	158	94	71	48	
15.....				40	446	965	332	148	74	67	48	
16.....				42	480	880	338	141	73	63	48	
17.....				45	560	742	343	135	88	58	48	
18.....				48	640	795	348	128	83	58	48	
19.....				51	628	850	325	122	83	58	47	
20.....				54	615	805	302	95	88	58	47	
21.....				58	765	760	319	138	83	55	47	
22.....				62	802	715	335	188	71	54	47	
23.....				66	840	696	348	166	71	54	46	
24.....				70	857	667	348	131	71	54	46	
25.....				78	874	638	348	134	67	54	46	
26.....				82	890	574	336	136	67	54	46	
27.....				86	940	510	324	138	67	54	46	
28.....				86	1000	480	336	140	67	54	46	
29.....				86	1060	450	348	140	61	54	46	
30.....				91	1090	420	359	140	60	54	46	
31.....					1110		370	140		54		
Mean.....				65.3	539	807	347	189	87.2	55.4	48.2	
Run-off acre-feet.....				2070	33100	48000	21300	11600	5190	3410	2870	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Ten Mile Creek at Dillon for 1913.
Drainage Area, 113 Square Miles. Altitude, 8,815 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					194	715	265	74	54	48	34	
2.....					230	672	239	69	54	48	36	
3.....					177	610	212	67	54	48	37	
4.....					235	660	194	65	54	48	36	
5.....					294	610	177	63	61	48	34	
6.....					353	560	168	61	70	48	34	
7.....					301	510	160	57	115	46	34	
8.....					249	535	152	54	129	44	37	
9.....					240	560	144	54	89	44	36	
10.....					230	535	144	66	69	44	35	
11.....					238	510	129	78	54	44	35	
12.....					246	420	125	89	54	46	34	
13.....					254	465	120	79	54	48	32	
14.....					262	465	115	66	54	48	32	
15.....					270	488	122	54	54	48	34	
16.....					278	510	129	54	54	48	34	
17.....					286	510	144	53	54	48	34	
18.....					294	660	160	52	53	48	34	
19.....					302	398	144	52	53	46	34	
20.....					301	420	152	48	52	44	34	
21.....				212	280	442	160	45	53	44	34	
22.....				212	249	420	151	42	54	42		
23.....				89	420	398	148	42	54	42		
24.....				69	735	375	144	42	54	41		
25.....				65	948	353	129	42	54	40		
26.....				61	1160	342	115	42	54	38		
27.....				75	1010	331	102	48	48	37		
28.....				89	910	289	89	54	48	37		
29.....				177	885	289	89	54	48	37		
30.....				212	860	289	84	54	48	37		
31.....					777		79	54		36		
Mean.....				126	435	478	145	57.2	60.0	44.0	34.5	
Run-off acre-feet.....				2500	26700	28400	8920	3520	3570	2700	1440	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Ten Mile Creek at Dillon for 1914.
Drainage Area, 113 Square Miles. Altitude, 8,815 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					70	1380	400	184	70	49	45	
2					86	1410	432	177	67	53	49	
3					101	1440	465	170	64	53	49	
4					116	1360	434	150	62	53	48	
5					152	1270	403	133	62	49	49	
6					187	1200	372	116	58	45	49	
7					200	1130	340	110	68	49	49	
8					215	1050	312	103	55	53	49	
9					230	995	260	96	55	53	49	
10					262	782	212	90	53	49	49	
11					295	1220	212	90	55	45	49	
12					317	1300	212	90	55	43	49	
13					339	1380	212	86	58	49	49	
14					361	1340	212	83	58	55	49	
15				24	406	1300	212	80	55	49	49	
16				26	450	1220	212	80	55	45	50	
17				29	635	1060	212	80	55	45	53	
18				32	820	1040	212	80	55	43	53	
19				35	832	1020	212	80	53	43		
20				38	845	991	212	74	55	43		
21				42	1100	963	212	74	53	43		
22				46	1090	935	212	86	53	43		
23				50	1080	910	212	95	49	43		
24				55	1070	884	201	74	49	43		
25				62	1060	858	190	70	49	43		
26				66	1050	783	190	70	49	45		
27				70	1160	708	190	74	49	49		
28				70	1210	631	190	74	49	49		
29				70	1270	554	190	74	49	49		
30				70	1300	477	190	74	49	47		
31					1340		190	74		46		
Mean				49.1	634	1050	255	96.5	55.5	47.3	49.2	
Run-off acre-feet				1560	39000	62500	15700	5930	3300	2910	1760	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Snake River at Dillon for 1913.
Drainage Area, 92 Square Miles. Altitude, 8,815 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					82	300	180	76	35	25	16	
2.....					70	300	174	70	35	25	16	
3.....					35	300	169	68	35	25	16	
4.....					74	280	152	65	35	23	18	
5.....					113	280	136	62	30	23	21	
6.....					152	251	128	60	37	23	16	
7.....					136	222	121	65	44	22	11	
8.....					121	222	114	70	50	21	14	
9.....					114	222	108	70	35	21	13	
10.....					108	261	94	78	35	21	12	
11.....						300	108	86	35	21	11	
12.....						342	103	94	35	21	11	
13.....						364	98	70	35	21	10	
14.....						342	94	50	33	21	10	
15.....						342	115	42	31	21	11	
16.....						342	136	35	30	21	11	
17.....						342	161	35	30	21	11	
18.....						364	186	35	30	20	11	
19.....						241	204	35	30	20	11	
20.....					152	250	204	35	30	20	35	
21.....				136	136	260	204	32	30	19	35	
22.....				136	121	241	222	30	30	19		
23.....				30	186	222	204	35	30	19		
24.....				21	280	213	186	35	30	19		
25.....				21	322	204	169	35	28	19		
26.....				21	364	195	152	35	25	19		
27.....				25	342	186	130	42	25	19		
28.....				30	300	152	108	35	25	19		
29.....				42	300	169	94	35	25	19		
30.....				70	300	186	88	35	25	17		
31.....					300		82	35		17		
Mean.....						263	143	51.1	32.1	20.1		
Run-off acre-feet.....						15600	8790	3140	1910	1240		

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Snake River at Dillon for 1914.
Drainage Area, 92 Square Miles. Altitude, 8,815 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		25	19	37	60	718	321	254	61	17	14	
2	25	25	17	39	60	718	342	248	61	17	14	
3		25	18	42	60	718	364	241	48	17	14	
4		25	19	42	60	704	343	241	34	17	14	
5		25	21	42	71	690	322	204	34	17	14	
6	22	26	23	42	82	671	301	204	34	17	14	
7		26	25	42	86	653	280	186	34	17	14	
8	21	26	25	42	90	635	270	169	34	17	14	
9		26	25	42	94	505	260	160	32	17	14	
10		26	25	42	101	625	280	152	29	17	14	
11		27	25	45	108	745	260	130	29	17	14	
12		27	25	50	117	860	258	108	29	18	14	
13		28	25	82	126	975	256	100	26	18	14	
14		24	26	50	136	945	253	91	32	18	14	
15		24	27	42	161	915	250	82	23	18	14	
16		24	29	42	186	975	247	80	23	18	14	
17		24	30	42	223	690	244	79	23	17	14	
18		23	30	42	260	745	241	78	21	17	14	
19		22	30	42	260	800	222	73	21	17		
20		22	30	42	260	745	204	73	23	16		
21		21	30	42	321	690	210	68	18	14		
22		20	32	44	353	635	216	118	18	14		
23		19	35	47	385	609	222	102	18	14		
24		18	35	50	400	582	232	82	17	14		
25		17	35	50	415	555	241	62	17	14		
26		18	35	55	430	492	260	62	17	14		
27		20	35	60	480	430	280	56	17	14		
28		21	35	60	558	398	280	56	16	14		
29			35	60	635	365	280	62	16	14		
30			35	60	653	332	280	56	16	14		
31			36		671		260	56		14		
Mean	*22.0	23.4	28.1	47.3	255	671	267	120	27.4	16.1	14.0	
Run-off acre-feet	1350	1300	1730	2810	15700	39900	16400	7380	1630	990	830	

Unless otherwise noted, all discharges are in cubic feet per second. *Estimated.

EAGLE RIVER AT RED CLIFF.

Location.—In sec. 30, T. 6 S., R. 80 W., in the town of Red Cliff, in the Holy Cross National Forest, 100 yards above mouth of Turkey Creek, and 1 mile above the mouth of Homestake Creek.

Records Available.—January 1, 1911, to November 30, 1914.

Drainage Area.—74 square miles.

Gage.—Chain gage; location and datum unchanged.

Channel.—Shifting after high water.

Discharge Measurements.—Made from highway bridge at station during high water and by wading at ordinary stages.

Winter Flow.—Little, if any, ice forms at this station.

Diversions.—There are court decrees for diversions of 22 second-feet from Eagle River and tributaries above the station; 18.5 second-feet of this amount for diversion to the Arkansas Basin.

Accuracy.—Owing to the high altitude of the drainage basin, alternate melting and freezing possibly cause diurnal fluctuations of stage at certain seasons; therefore, the mean daily stage as determined from two readings per day may be somewhat in error. For that reason the estimates cannot be considered better than good.

Co-operation.—Station maintained by the United States Geological Survey, in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON EAGLE RIVER AT RED CLIFF, COLO.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 28	R. H. Fletcher.....	1.70	90	Jan. 9	R. H. Fletcher.....	0.66	10
June 30	R. H. Fletcher.....	1.63	85	Feb. 11	R. H. Fletcher.....	.68	12
Sept. 7	R. H. Fletcher.....	.95	28	June 11	Robert Follansbee....	2.65	384
				Aug. 17	Robert Follansbee....	.89	28
				Oct. 14	Robert Follansbee....	.60	17

EAGLE RIVER AT EAGLE.

Location.—At the highway bridge at Eagle, in Eagle County, three-fourths of a mile above the mouth of Brush Creek.

Records Available.—March 12, 1905, to February 10, 1907, at site a short distance below the mouth of Brush Creek; January 17, 1911, to November 17, 1914, at present site.

Drainage Area.—630 square miles.

Gage.—Vertical staff.

Channel.—Practically permanent.

Discharge Measurements.—Made from highway bridge at ordinary and high stages and by wading during low water.

Winter Flow.—Ice causes backwater during the winter. Discharge measurements are made to determine the winter flow.

Diversions.—Between Eagle and the Station at Red Cliff there are court decrees for diversions of 50 second-feet from Eagle River and for diversions of 286 second-feet from intervening tributaries. Between Eagle and the mouth there are decrees for 28 second-feet from Eagle River.

Accuracy.—Except for the meager gage heights, which make the estimates for the later part of the year somewhat uncertain, the records are considered good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON EAGLE RIVER AT EAGLE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 30	R. H. Fletcher.....	1.70	967	June 12	Robert Follansbee....	4.48	4090
June 28	R. H. Fletcher.....	2.00	1120	Aug. 8	M. D. Anderson.....	1.19	504
Sept. 6	R. H. Fletcher.....	.62	258				

TURKEY CREEK AT RED CLIFF, COLORADO.

Location.—At highway bridge in Red Cliff, 800 feet above the mouth of the creek.

Records Available.—June 30, 1913, to November 30, 1914.

Drainage Area.—27 square miles.

Gage.—Vertical staff.

Control.—Data too meager to determine.

Discharge Measurements.—Made from single span bridge, and by wading.

Winter Flow.—Ice causes backwater during the winter months, and discharge measurements are made to determine the flow.

Accuracy.—Owing to the high altitude of the station (8,600 feet), it is probable that at certain seasons there are diurnal fluctuations of stage, due to alternate melting and freezing. For that reason the mean daily gage height, based on one reading, may be considerably in error, and therefore the estimates are considered fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS OF TURKEY CREEK AT RED CLIFF, COLO.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
June 30	R. H. Fletcher.....	1.73	59
Sept. 7	R. H. Fletcher.....	1.18	13

Discharge of Eagle River at Red Cliff for 1913.
Drainage Area, 74 Square Miles. Altitude, 8,598 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					180	310	68	31	18	31	16	12
2					142	292	68	31	18	38	17	7
3					98	370	64	31	21	31	18	4
4					180	292	60	31	21	31	18	8
5					150	275	56	24	21	28	13	9
6					180	225	56	30	25	24	16	12
7					195	168	56	24	30	d 4	15	18
8				38	180	168	52	24	34	d 3	15	15
9				28	210	168	52	24	28	d 3	15	12
10				18	225	180	58	28	28	d 4	15	12
11				18	210	180	54	24	23	d 5	15	12
12				31	275	186	48	31	21	18	15	12
13				45	330	168	48	30	21	21	15	10
14				70	275	180	48	28	26	21	15	9
15				98	168	180	48	24	31	21	13	7
16				106	155	180	52	24	24	18	13	7
17				98	180	168	52	22	24	18	12	7
18				103	180	180	58	21	21	17	12	7
19				118	180	180	56	21	21	18	12	7
20				106	258	210	56	24	21	18	12	7
21				125	204	186	56	31	22	21	12	7
22				106	210	130	52	31	24	21	12	7
23				90	195	155	56	21	25	21	12	7
24				68	216	125	78	21	24	21	12	7
25				66	390	130	60	21	21	21	12	7
26				60	350	84	56	21	23	20	12	7
27				73	390	84	52	21	21	18	12	7
28				88	370	78	46	21	21	18	12	7
29				103	350	78	45	21	21	10	12	7
30				180	358	78	38	18	21	18	12	7
31					310		34	18		18		7
Mean				79.8	235	180	54.3	24.9	23.3	18.7	13.7	8.74
Run-off acre-feet				3640	14400	10700	3340	1530	1390	1150	815	537

Unless otherwise noted, all discharges are in cubic feet per second.

d Filling Pando ice ponds.

Discharge of Eagle River at Red Cliff for 1914.
Drainage Area, 74 Square Miles. Altitude, 8,598 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	6	12	10	17	76	750	117	53	31	22	23	11
2.....		12	11	17	74	750	117	51	28	24	23	11
3.....		12	13	25	73	750	113	49	26	21	22	12
4.....		12	8	31	72	700	106	43	24	21	18	14
5.....	7	11	11	36	76	605	119	38	24	20	15	13
6.....		11	10	42	80	470	66	38	24	22	15	12
7.....		11	12	38	84	390	63	38	23	22	15	10
8.....		11	18	30	120	390	64	38	22	22	14	10
9.....	10	11	23	31	180	430	64	36	22	22	14	14
10.....		11	10	31	210	390	66	34	22	23	13	7
11.....		11	8	28	310	590	66	33	20	22	15	9
12.....	10	11	5	32	225	410	68	29	22	22	16	9
13.....		11	18	35	210	432	68	29	22	23	18	9
14.....		10	5	37	225	346	62	28	22	19	17	7
15.....		9	8	52	240	455	64	29	24	a 6	17	5
16.....		9	10	68	210	367	60	28	27	5	16	7
17.....	10	8	24	62	240	268	63	27	22	4	18	6
18.....		7	12	51	430	250	64	30	22	5	13	6
19.....		7	12	52	470	268	62	28	22	5	19	5
20.....	10	10	7	55	515	187	62	26	22	4	13	5
21.....		11	4	65	538	160	59	28	33	a 5	6	7
22.....		10	7	68	700	155	61	35	28	13	5	4
23.....		10	10	76	700	146	56	32	22	24	9	4
24.....	10	12	12	68	750	132	52	30	22	27	9	5
25.....		10	5	66	582	141	43	29	21	b 34	9	4
26.....		8	18	79	538	128	44	30	21	b 34	10	5
27.....		8	23	92	560	141	46	29	20	25	15	5
28.....	7	10	15	70	605	132	66	33	21	23	12	4
29.....			15	74	560	123	60	38	24	19	12	4
30.....			15	b 155	605	120	62	34	23	23	12	4
31.....	12		17		700		66	29		22		4
Mean.....	9.1	10.2	12.1	52.8	353	353	69.3	33.9	23.5	18.8	14.4	7.5
Run-off acre-feet.....	*560	566	744	3140	21700	21000	4260	2080	1400	1160	857	461

Unless otherwise noted, all discharges are in cubic feet per second.

a Filling Pando ice ponds. b Letting water out of ponds. *31 days.

Discharge of Eagle River at Eagle for 1913.
Drainage Area, 630 Square Miles. Altitude, 6,588 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					1180	3410	1090	490	295	385	295	
2.....					1180	3020	1000	435	251	340	295	
3.....					1180	2650	975	435	251	295	295	
4.....					840	2410	950	390	208	340	295	
5.....					920	2410	920	340	208	385	295	
6.....					1270	2300	960	337	208	385	251	
7.....					1460	2070	1000	333	251	385	251	
8.....				273	1360	1960	1000	329	295	385	251	
9.....				208	1460	2070	1000	325	340	385	251	
10.....				208	1550	2180	1000	321	340	340	251	
11.....				208	1650	2530	920	318	340	295	251	
12.....				230	1860	2070	895	330	340	340	208	
13.....				251	1960	1750	870	340	340	340	240	
14.....				318	2070	1650	840	350	340	295	273	
15.....				463	1650	2070	685	360	385	295	208	
16.....				463	1360	2180	700	365	295	340	208	
17.....				800	1360	2070	720	365	340	295	208	
18.....				880	1460	2180	740	380	340	295	208	
19.....				685	1860	2300	770	390	340	340	208	
20.....				760	1650	2070	850	435	340	340	208	
21.....				840	1550	1960	937	385	295	385	187	
22.....				760	1360	1650	1240	340	295	340	166	
23.....				550	1860	1860	1550	295	340	340	166	
24.....				490	2180	1650	1550	295	295	295	166	
25.....				385	2650	1650	1550	251	295	340	166	
26.....				273	3020	1550	1180	251	295	295	166	
27.....				550	3410	1550	1180	251	340	295	166	
28.....				520	3150	1460	950	295	385	295	166	
29.....				723	3280	1270	720	295	385	295	166	
30.....				1000	3550	1180	490	295	385	295	146	
31.....					3410		490	295		295		
Mean.....				515	1890	2040	959	342	312	330	220	
Run-off acre-feet.....				23500	116000	121000	59000	21000	18600	20300	13100	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Eagle River at Eagle for 1914.
Drainage Area, 630 Square Miles. Altitude, 6,588 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				251	650	6310	1860	1180	435	304	295	
2.....				295	615	6310	1750	1090	435	295	286	
3.....				322	615	6610	1550	1000	410	295	286	
4.....				318	615	6010	1960	760	410	331	286	
5.....				298	685	4670	2070	722	410	340	251	
6.....				277	685	4110	1860	685	410	331	230	
7.....				362	685	3760	1550	650	410	318	230	
8.....				340	760	3410	1550	615	410	331	219	
9.....				308	962	2530	1550	582	385	385	208	
10.....				308	1360	2770	1460	615	376	349	208	
11.....				277	1960	4250	1360	550	340	304	208	
12.....				264	1360	4670	1460	550	340	295	200	
13.....				251	1550	4810	1460	490	349	295	200	
14.....				295	1650	4960	1270	462	376	295	187	
15.....				435	1860	5110	1360	435	340	295	166	
16.....				615	1750	4250	1270	435	340	295	146	
17.....				582	1860	3970	1270	410	340	295	166	
18.....				435	1960	4250	1650	410	340	295		
19.....				462	2530	4530	1460	410	340	295		
20.....				490	2890	4250	1270	410	340	273		
21.....				462	3690	3970	1360	410	385	284		
22.....				410	4670	3150	1750	425	435	296		
23.....				462	5260	3020	1270	550	395	307		
24.....				615	5480	2650	1050	462	349	318		
25.....				550	5710	2410	1000	425	340	251		
26.....				582	5410	2410	1000	410	340	295		
27.....				615	5410	2300	1090	410	340	295		
28.....				615	5560	2070	1270	425	340	273		
29.....				650	5410	1960	1180	685	318	251		
30.....				615	5710	1860	1090	615	318	295		
31.....					6010		1550	520		295		
Mean.....				425	2750	3910	1440	574	370	302	222	
Run-off acre-feet.....				25300	169000	233000	88500	35300	22000	18600	7480	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Turkey Creek at Red Cliff for 1913.
Drainage Area, 27 Square Miles. Altitude, 8,598 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....							55	19	13	14	9	
2.....							55	19	12	12	8	
3.....							55	17	12	12	8	7
4.....							49	17	12	12	5	
5.....							45	17	12	12	5	
6.....							44	17	12	12	6	7
7.....							43	16	13	7	9	
8.....							35	17	14	10	14	
9.....							35	15	12	10	13	7
10.....							35	15	12	10	12	
11.....							31	15	12	10	9	
12.....							31	16	12	10	8	7
13.....							29	16	11	10	8	
14.....							29	15	11	10	8	
15.....							29	14	12	9	8	
16.....							31	12	12	8	8	
17.....							31	13	12	10	8	7
18.....							29	14	10	10	8	
19.....							27	14	10	10	9	
20.....							25	14	11	9	8	7
21.....							25	14	10	8	8	
22.....							25	14	11	10	8	7
23.....							24	13	11	12	8	
24.....							25	13	12	12	8	
25.....							22	14	11	10	7	
26.....							22	14	11	10	7	
27.....							22	14	11	9	7	7
28.....							22	14	12	9	8	
29.....							20	14	12	9	8	7
30.....							19	14	12	9	7	
31.....							19	13		10		
Mean.....							31.9	14.9	11.7	10.2	8.2	7.0
Run-off acre-feet.....							1960	916	696	627	488	430

Unless otherwise noted, all discharges are in cubic feet per second.

HOMESTAKE CREEK NEAR RED CLIFF.

Location.—In sec. 30, T. 6 S., R. 80 W., one-fourth mile above the mouth of the creek and three-fourths of a mile from Red Cliff; below all tributaries.

Records Available.—January 8, 1911, to November 30, 1914.

Drainage Area.—64 square miles.

Gage.—Vertical staff.

Channel.—Apparently permanent.

Discharge Measurements.—Made by wading near by.

Winter Flow.—Ice causes backwater, and discharge measurements are made to determine the winter flow.

Diversions.—There are court decrees for diversions of 1.2 second-feet from Homestake Creek.

Accuracy.—Owing to the high altitude of the drainage basin, alternate melting and freezing may cause diurnal fluctuations in stage during certain seasons. Therefore the mean daily gage height as determined from one reading may be considerably in error. In view of the foregoing, and of the many interpolated discharges, the estimates can not be considered better than fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON HOMESTEAD CREEK NEAR RED CLIFF.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
Apr. 28	R. H. Fletcher.....	1.55	103	Jan. 9	R. H. Fletcher.....	0.58	8.05
June 29	R. H. Fletcher.....	1.95	176	Feb. 11	R. H. Fletcher.....	0.50	8.61
Sept. 7	R. H. Fletcher.....	1.15	55	Aug. 17	Robert Follansbee....	0.82*	40.0
				Oct. 14	Robert Follansbee....	0.52†	14.0

*New gage put in. Old gage read 1.00.

†New gage put in. Old gage read 0.58.

ROARING FORK AT ASPEN.

Location.—In sec. 7, T. 10 S., R. 84 W., at Aspen, Colo., above Castle, Maroon, and Hunter creeks.

Records Available.—January 1, 1911, to November 30, 1914.

Drainage Area.—109 square miles.

Gage.—Vertical staff.

Channel.—Very rough and slightly shifting.

Discharge Measurements.—Made by wading, except during high water, when bridge is used.

Winter Flow.—Ice causes backwater during the winter; discharge measurements are made to determine the winter flow.

Diversions.—The Salvation ditch, which has a decree for 42 second-feet, diverts water above the station usually from the middle of May to the middle of September.

Accuracy.—Owing to the high altitude of the drainage basin, alternate melting and freezing probably cause diurnal fluctuations in stage at certain seasons. Therefore the mean daily stage, as determined from one reading, may be somewhat in error. For this reason the estimates can not be considered better than fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON ROARING FORK AT ASPEN.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 6	R. H. Fletcher.....	1.40	228	Jan. 13	R. H. Fletcher.....	0.22	26
June 27	R. H. Fletcher.....	2.25	489	Feb. 12	R. H. Fletcher.....	0.10	30
Oct. 19	Robert Follansbee....	.42	52				

ROARING FORK BELOW ASPEN.

Location.—In sec. 1, T. 10 S., R. 85 W., two miles below Aspen at the first highway bridge. Nearest tributary above is Castle Creek, and below, Maroon Creek.

Records Available.—October 24, 1913, to November 30, 1914.

Drainage Area.—223 square miles.

Gage.—Vertical staff. Mean stage based on one reading and the high water mark for the 24-hour period.

Control.—Apparently permanent.

Discharge Measurements.—Made from two-span bridge.

Winter Flow.—Ice causes little or no backwater during the winter months, as shown by discharge measurements.

Diversions.—Between the station at Aspen and this one there are a number of small diversions, some of which return the water to the river above the lower station. The Roaring Fork Light and Power Company diverts water from Maroon Creek into Castle Creek, and thence into Roaring Fork above the station.

Accuracy.—Owing to the high altitude of the station (7,900 feet) there are diurnal fluctuations at certain seasons, due to alternate melting and freezing. Therefore the mean daily stage as determined from one reading and the highwater mark may be somewhat in error. For this reason, and the meager gage heights, the estimates can not be considered better than fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON ROARING FORK BELOW ASPEN.

Date 1914		Hydrographer	Gage Ht.	Discharge
			Feet 2.2	Sec. Ft.
Jan 13		R. H. Fletcher.....	0.21	102
Feb. 12		R. H. Fletcher.....	0.18	107
June 15		Robert Follansbee....	2.85	2260
Aug. 10		M. D. Anderson.....	0.70	327

Discharge of Homestake Creek near Red Cliff for 1913.
Drainage Area, 64 Square Miles. Altitude, 8,598 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					230	450	155	34	26	30	23	
2.....					230	395	155	38	23	56	23	
3.....					230	395	148	35	23	51	24	
4.....					230	430	148	35	23	51	25	
5.....					230	420	131	26	24	46	22	
6.....					260	395	127	26	26	40	20	
7.....					325	385	123	26	30	26	18	
8.....					290	375	123	26	51	27	17	
9.....				20	260	360	115	28	45	28	17	
10.....				26	290	360	125	30	40	30	17	
11.....				45	395	360	115	38	40	31	17	
12.....				61	395	360	86	79	34	33	17	
13.....				80	430	245	86	55	30	34	16	
14.....				115	375	205	86	46	34	30	15	
15.....				115	205	265	86	34	40	30	14	
16.....				115	166	325		30	36	30	8	
17.....				115	217	378	260	30	34	28	10	
18.....				125	220	360		30	26	28	12	
19.....				185	230	308	185	30	26	26	13	
20.....				175	260	315		34	26	26	13	
21.....				166	180	325		26	26	26	14	
22.....				125	166	290		26	26	24	14	
23.....				73	290	300		23	30	23	14	
24.....				86	395	290	217	22	28	25	14	
25.....				61	470	230	157	20	27	25	14	
26.....				51	430	260	108	20	26	25	14	
27.....				80	670	290	90	26	26	25	14	
28.....				108	490	205	73	26	26	25	14	
29.....				148	510	190	62	26	26	25	14	
30.....				195	610	176	52	26	26	25	14	
31.....					510		42	26		25		
Mean.....				103	329	321	122	31.5	30.1	30.8	16.0	
Run-off acre-feet.....				4490	20200	19100	6050	1940	1790	1890	952	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Homestake Creek near Red Cliff for 1914.
Drainage Area, 64 Square Miles. Altitude, 8,598 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				19	86	850	430	218	46	22	18	
2.....				20	80	895	378	194	40	22	16	
3.....				20	98	940	325	171	37	22	14	
4.....			11	26	115	760	320	148	34	22	11	
5.....				32	128	635	314	124	32	22	10	
6.....				38	140	510	308	100	30	22	9	
7.....			12	46	153	510	308	93	28	22	8	
8.....				51	166	510	308	86	26	22	7	
9.....	8			46	378	550	282	80	23	23	7	
10.....			10	40	386	590	256	73	22	24	7	
11.....		9		34	395	630	230	73	22	25	7	
12.....				50	395	650	226	73	22	26	7	
13.....				67	395	670	222	62	23	26	7	
14.....			12	66	406	738	218	51	23	13	7	
15.....				65	412	805	212	42	24	14	7	
16.....				63	395	670	205	43	26	16	7	
17.....				61	412	685	218	44	24	17	7	
18.....				59	430	700	230	44	22	18	7	
19.....				67	590	715	230	44	20	20	7	
20.....				73	670	674	230	44	19	22	7	
21.....				82	630	632	230	44	34	24	6	
22.....				91	760	590	198	46	49	26	6	
23.....				100	703	550	166	48	46	25	6	
24.....				100	646	512	131	51	42	24	6	
25.....				100	590	473	140	54	39	24	7	
26.....				100	652	434	202	57	36	25	7	
27.....				100	715	395	264	60	32	26	7	
28.....				100	612	420	325	63	28	28	7	
29.....				96	510	445	285	66	25	26	7	
30.....				91	590	470	245	59	22	23	7	
31.....			19		720		232	52		20		
Mean.....	8.0	9.0	11.0	63.4	431	620	254	77.6	29.9	22.3	8.1	
Run-off acre-feet.....	492	500	676	3770	26500	36900	15600	4770	1780	1370	482	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Roaring Fork at Aspen for 1913.
Drainage Area, 109 Square Miles. Altitude, 7,931 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					142	770	365	109	55	109	67	55
2.....					142	885	423	102	55	109	67	
3.....					180	840	394	98	55	109	67	
4.....					226	780	365	94	55	104	67	
5.....					280	735	336	94	61	99	61	
6.....					226	690	336	85	61	94	61	
7.....					252	600	308	76	102	102	55	
8.....					280	600	308	67	142	61	45	
9.....				45	308	615	308	67	160	80	50	
10.....					336	630	294	94	156	80	55	
11.....				109	423	660	280	125	142	74	45	
12.....				125	510	600	226	100	138	84	48	
13.....					481	481	214	80	134	94	50	
14.....					481	510	202	74	130	94	55	
15.....					510	555	202	77	125	94	45	
16.....					472	600	202	80	117	67	48	
17.....					433	600	202	65	109	74	50	
18.....					394	600	202	55	109	61	49	
19.....					375	600	191	45	111	57	48	
20.....					355	600	186	50	113	59	47	
21.....					336	690	180	51	115	61	46	
22.....					365	670	214	52	117	64	45	
23.....				109	481	650	208	53	117	67	45	
24.....				109	510	630	202	54	113	67	46	
25.....				94	660	630	202	55	109	61	47	
26.....				94	690	630	170	55	105	63	48	
27.....				109	705	630	165	55	102	65	49	
28.....				125	720	570	160	55	109	67	50	
29.....				142	850	482	142	55	109	67	55	
30.....				160	885	394	126	55	109	70	55	
31.....					660		109	55		74		
Mean.....				111	441	631	239	72.0	108	78.4	52.2	
Run-off acre-feet.....				2420	27100	37500	14700	4430	6430	4820	3110	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Roaring Fork at Aspen for 1914.
Drainage Area, 109 Square Miles. Altitude, 7,931 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				25	98	1700	560	308	86	87	64	
2.....				31	106	1580	532	272	78	96	64	
3.....				37	112	1460	500	237	69	106	63	
4.....				38	117	965	468	202	60	106	62	
5.....				40	122	828	440	194	58	106	61	
6.....				42	104	690	408	187	56	106	54	
7.....				44	87	608	378	180	54	106	54	
8.....				45	160	526	362	172	52	106	53	
9.....				44	214	445	362	165	51	106	53	
10.....				44	274	635	362	158	59	106	52	
11.....				43	334	825	367	150	67	102	52	
12.....		30		44	394	1340	373	142	72	99	54	
13.....	26			45	423	1700	365	134	78	96	54	
14.....				70	452	1540	380	125	83	92	55	
15.....				75	481	1380	394	117	88	89	56	
16.....				80	540	1220	365	109	93	86	56	
17.....				72	555	1100	350	101	98	83	39	
18.....				65	570	1500	336	93	103	80	48	
19.....				60	715	1620	332	101	108	77	56	
20.....				55	860	1510	329	109	113	74	65	
21.....				78	1070	1410	326	117	118	80	65	
22.....				102	1180	1300	322	110	123	87	52	
23.....				122	1220	1340	312	103	107	94	39	
24.....				127	1080	1260	303	97	91	88	38	
25.....				132	930	690	294	91	75	83	36	
26.....				106	1100	660	318	92	74	78	34	
27.....				80	1180	630	342	92	72	72	32	
28.....				100	860	600	365	93	70	67	31	
29.....				96	720	570	350	92	68	66	30	
30.....				98	1020	540	336	90	78	66	30	
31.....					1360		322	98		65		
Mean.....	30	30	30	68.0	595	1070	373	139	80.1	88.9	50.1	
Run-off acre-feet.....	1840	1670	1840	4050	36600	63700	22900	8550	4770	5470	2980	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Roaring Fork below Aspen for 1913.
Drainage Area, 223 Square Miles. Altitude, 7,900 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....											179	207
2.....											184	204
3.....											188	200
4.....											188	196
5.....											171	192
6.....											154	188
7.....											137	188
8.....											121	188
9.....											126	188
10.....											132	188
11.....											137	188
12.....											146	154
13.....											154	170
14.....											154	170
15.....											154	170
16.....											162	170
17.....											170	165
18.....											167	160
19.....											164	154
20.....											161	148
21.....											158	142
22.....											154	137
23.....											157	142
24.....										170	159	146
25.....										170	162	150
26.....										170	165	154
27.....										170	167	137
28.....										170	170	137
29.....										170	188	137
30.....										170	198	137
31.....										174		126
Mean.....										170	161	166
Run-off acre-feet.....										2700	9580	10200

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Roaring Fork below Aspen for 1914.
Drainage Area, 223 Square Miles. Altitude, 7,900 Feet Above
Sea Level..

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	116	106	108	106	233	4030	1400	530	174	184	164	
2.....	105	105	111	106	255	2620	1330	482	178	185	152	
3.....	110	104	115	107	262	2480	1250	435	183	186	151	
4.....	116	104	112	108	270	1810	1170	435	188	188	150	
5.....	121	103	110	116	275	1610	1100	390	185	196	148	
6.....	121	102	108	124	280	1400	1020	345	182	204	146	
7.....	121	103	111	132	285	1240	945	300	179	212	145	
8.....	121	104	114	140	368	1070	905	308	176	220	144	
9.....	121	105	118	150	452	905	905	316	174	220	143	
10.....	121	103	116	160	510	1160	905	325	176	220	142	
11.....	116	101	114	170	569	1690	918	300	178	215	140	
12.....	112	99	112	154	628	2080	932	276	177	210	140	
13.....	108	105	110	137	660	2480	945	252	176	205	137	
14.....	118	105	108	148	768	4000	925	228	175	200	136	
15.....	128	105	110	159	842	3660	905	218	174	195	135	
16.....	137	105	111	170	920	3310	832	208	188	190	134	
17.....	137	102	110	183	985	2960	758	198	203	185	148	
18.....	126	99	108	196	1050	2620	685	188	218	180	136	
19.....	116	102	106	202	1370	3230	702	194	232	175	124	
20.....	105	105	105	209	1690	3390	720	201	246	171	112	
21.....	106	108	106	216	2340	3160	738	208	260	170	120	
22.....	107	111	106	218	2700	2930	755	202	275	169	120	
23.....	108	114	107	220	2700	2700	672	196	252	168	120	
24.....	108	118	108	252	2550	2450	588	190	230	166	121	
25.....	108	121	108	285	2410	2200	621	185	208	165	123	
26.....	109	116	108	233	2000	1880	654	182	202	164	124	
27.....	109	110	108	181	2700	1630	687	180	195	162	125	
28.....	110	105	108	275	2320	1540	720	178	188	161	125	
29.....	110		107	237	1940	1440	672	177	181	160	125	
30.....	111		106	235	2410	1350	625	176	182	158	125	
31.....	108		105		3220		578	175		156		
Mean.....	115	106	109	178	1290	2300	857	264	198	185	135	
Run-off acre-feet.....	7070	5890	6700	10600	79300	137000	52700	16200	11800	11400	8030	

Unless otherwise noted, all discharges are in cubic feet per second.

ROARING FORK AT GLENWOOD SPRINGS.

Location.—On bridge 500 feet above the mouth of the river in Glenwood Springs. Nearest important tributary enters about 3 miles above the station.

Records Available.—April 6, 1906, to September 30, 1909; September 21, 1910, to November 30, 1914.

Drainage Area.—1,450 square miles.

Gage.—Chain gage; location and datum unchanged.

Channel.—Practically permanent, but rough. Extremely high water in Grand River may cause backwater at the gage. Measurements made at stages as high as 5.7 feet on Roaring Fork, and 9.2 feet on Grand River have shown no backwater effect.

Discharge Measurements.—Made from highway bridge.

Winter Flow.—Surface ice rarely forms entirely across the river, but slush and anchor ice frequently occur. Discharge measurements sometimes show backwater from ice.

Diversions.—There are court decrees for diversions of 196 second-feet from Roaring Fork above the station, and 795 second-feet from the various tributaries.

Accuracy.—Conditions are favorable for accurate results; estimates should be reliable.

Co-operation.—Since 1910 the station has been maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON ROARING FORK AT GLENWOOD SPRINGS.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 22*	R. H. Fletcher.....	1.52	422	Jan. 13	R. H. Fletcher.....	1.20	408
May 3	R. H. Fletcher.....	2.75	1960	Feb. 15	R. H. Fletcher.....	1.27	497
June 26	R. H. Fletcher.....	3.50	3130	Aug. 9	M. D. Anderson.....	2.65	1660
Sept. 4	R. H. Fletcher.....	1.60	667	Oct. 15	Robert Follansbee....	1.98	829
Oct. 16	Robert Follansbee....	1.74	756				

*Ice condition.

CASTLE CREEK NEAR ASPEN.

Location.—In sec. 35, T. 10 S., R. 85 W., in the Sopris National Forest, on the highway bridge 4 miles above Aspen. No tributary between the station and the mouth of the creek except small gulches that carry spring run-off. Nearest tributary above, Conundrum Creek, enters about 6 miles upstream.

Records Available.—February 16, 1911, to November 30, 1914.

Drainage Area.—72 square miles.

Gage.—Vertical staff. On February 29, 1912, the gage was moved to the opposite side of the creek and to the lower side of

the bridge. The datum was lowered 1.00 foot, but the difference in gage readings varies. All 1912 gage heights are referred to the latter datum.

Channel.—Apparently permanent.

Discharge Measurements.—Made from the bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes some backwater at this station, and discharge measurements are made to determine the flow.

Diversions.—No water is diverted above the station. The Roaring Fork Light & Power Co. and the Newman mine divert water from Castle Creek below the station.

Accuracy.—The mean daily stage as determined from one reading may be somewhat in error, as a result of the high altitude of the station, and, therefore, the gage heights can not be considered better than fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON CASTLE CREEK NEAR ASPEN.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
May 7	R. H. Fletcher.....	1.35	99	Jan. 14	R. H. Fletcher.....	0.90	32
June 27	R. H. Fletcher.....	2.20	283	Feb. 13	R. H. Fletcher.....	0.80	22
Oct. 19	Robert Follansbee....	1.07	49	Aug. 11	M. D. Anderson.....	1.48	129

MAROON CREEK NEAR ASPEN.

Location.—In sec. 22, T. 10 S., R. 85 W., in the Sopris National Forest, just above the headgate of the Roaring Fork Light & Power Co., 5 miles above Aspen, Colo. Nearest tributary, Willow Creek, enters just below the station.

Records Available.—January 1 to November 30, 1914.

Drainage Area.—42 square miles.

Gage.—Vertical staff.

Channel.—Shifting after high water.

Discharge Measurements.—Made by wading, except during high water, when they are made from a footbridge.

Winter Flow.—Discharge measurements indicate that ice does not cause backwater at this station.

Diversions.—So far as known, no water is diverted above the station; the Roaring Fork Light & Power Co. diverts water just below.

Accuracy.—Estimates made are reliable, but snowslides upstream sometimes choke the channel and hold the water back.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON MAROON CREEK NEAR ASPEN.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 7	R. H. Fletcher.....	0.95	46	Jan. 14	R. H. Fletcher.....	0.63	24
June 27	R. H. Fletcher.....	1.80	238	Feb. 13	R. H. Fletcher.....	0.66	24
Oct. 19	Robert Fellanster ...	0.92	37	Aug. 11	M. D. Anderson.....	1.45	147

Discharge of Roaring Fork River at Glenwood Springs for 1913.
 Drainage Area, 1,450 Square Miles. Altitude, 5,747 Feet Above
 Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	485		410	820	2710	5720		990	680	715	620	535
2.....			410	750	2710	5840		900	680	750	635	560
3.....			410	680	1960	5840		900	650	750	650	460
4.....			410	620	2000	6070		900	620	770	620	485
5.....			435	680	2040	6300		820	680	800	620	535
6.....			460	730	3080	5150		750	727	820	590	535
7.....			410	785	3270	4920		785	774	785	620	522
8.....			460	680	3080	4810		785	820	820	650	510
9.....			448	560	2890	4700		823	1180	750	605	510
10.....			435	535	3420	4700		861	990	785	560	485
11.....			435	590	3950	4700	2530	900	945	715	620	435
12.....			435	620	4480	4700	2360	900	945	790	620	410
13.....			460	720	5150	3650	2200	990	820	820	620	410
14.....			390	820	4260	3270	1650	820	860	750	620	448
15.....			350	900	3080	3280	1620	820	900	715	620	485
16.....			370	1230	3650	3500	1750	750	820	715	620	485
17.....			390	1440	3580	4700	1750	750	820	750	620	485
18.....			435	1560	3520	4700	1750	750	750	715	650	460
19.....			435	1500	3460	4920	2200	680	750	668	620	485
20.....		410	410	1620	2890	5150	1980	680	750	620	650	460
21.....		410	390	1560	2530	4980	1750	650	800	620	650	370
22.....	422	370	390	1680	2200	4820	1750	680	860	650	590	350
23.....		370	380	1560	3230	4650	1890	680	900	680	600	485
24.....		370	370	1320	4260	4480	2530	680	820	620	610	435
25.....		460	410	1280	5050	3460	1820	680	750	620	620	450
26.....		410	370	1230	5840	3650	1440	680	785	620	620	466
27.....		460	370	1360	6780	4260	1340	620	750	620	605	485
28.....		435	435	1500	5840	4250	1230	620	750	620	590	485
29.....			460	1680	6540	4100	1230	680	750	560	560	485
30.....			560	2530	7270	3900	1080	680	715	590	560	435
31.....			680		5610		990	680		590		485
Mean.....		411	426	1120	3880	4640	1750	773	801	702	614	472
Run-off acre-feet.....		7350	26200	66800	239000	276000	72800	47500	47700	43200	36500	29000

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Roaring Fork River at Glenwood Springs for 1914.
Drainage Area, 1,450 Square Miles. Altitude, 5,747 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1						13100	8800	2620	990	620	602	
2						12300	8540	2400	936	638	596	
3						12800	8020	2170	909	844	590	
4						9340	8370	2020	868	927	590	
5					3250	9680	8720	1750	868	806	560	
6					3140	9890	9070	1710	850	868	535	
7					3040	8540	7640	1580	832	884	490	
8					3710	8020	7450	1460	813	838	492	
9					5150	7140	7150	1680	806	792	495	
10					6070	8280	6900	1590	806	804	495	
11					6900	10400	7770	1500	806	816	530	
12					5960	12000	7340	1360	792	828	535	
13					5840	13700	6900	1280	834	757	505	
14					6420	14200	6660	1080	876	785	505	
15					6540	12800	6420	990	820	746	475	
16					6070	12700	6070	976	764	708	445	
17					6420	12600	5500	963	764	668	480	
18					6780	12400	6180	932	729	662	462	
19					7770	12300	6300	900	680	656	445	
20					8540	12200	6420	868	736	656	440	
21					9340	12100	5960	868	792	656	480	
22					10400	12000	6660	954	820	680	520	
23					10700	11500	5380	940	820	722	505	
24					11200	11000	4920	927	820	722	530	
25					10200	11000	4810	852	785	686	480	
26					9880	9880	4270	945	662	650	455	
27					10200	8940	3720	1060	650	620	490	
28					10400	9140	3170	954	638	608	490	
29					9610	9340	2620	1030	638	578	480	
30					10700	9480	2620	1080	638	620	490	
31					12300		2800	1130		608		
Mean					7650	11000	6230	1310	791	724	506	
Run-off acre-feet					410000	655000	383000	80600	47100	44500	30000	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Castle Creek near Aspen for 1913.
Drainage Area, 72 Square Miles. Altitude, 7,931 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					32	301	258	148	88	62	43	41
2					32	297	258	148	88	60	43	43
3					71	294	235	142	88	58	43	41
4					71	291	254	135	91	56	43	40
5					80	288	273	127	94	59	43	39
6					89	285	293	124	98	62	43	38
7					98	281	235	120	100	64	43	38
8					117	265	231	117	110	62	43	38
9					136	250	227	122	148	59	43	38
10					154	235	223	127		56	43	43
11					172	268	218	120		54	43	43
12					191	236	213	113		50	43	43
13					178	214	206	107		47	43	43
14					162	191	199	106		45	43	43
15					148	191	191	104		43	43	43
16					144	191	191	103		43	43	43
17					140	191	191	102		42	43	43
18					136	191	191	101		41	42	43
19					130	191	189	100		40	41	43
20					127	210	186	98	107	38	40	43
21					117	258	183	96	112	36	39	42
22					107	281	180	94	117	34	38	41
23					150	305	176	92	108	32	39	40
24				43	192	294	172	90	98	28	41	39
25				43	235	282	169	88	89	32	43	38
26				43	305	270	164	88	80	36	38	38
27				43	293	258	158	88	71	40	35	38
28				43	281	258	153	88	68	43	32	38
29				43	305	258	148	88	66	43	35	38
30				32	305	258	148	88	64	43	38	38
31					305		148	88		43		38
Mean				41.4	181	252	202	108	94.2	46.8	41.1	40.5
Run-off acre-feet				575	9900	15000	12400	6640	3740	2880	2450	2490

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Castle Creek near Aspen for 1914.
Drainage Area, 72 Square Miles. Altitude, 7,931 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	37	32	31	32	54	442	342	200	85	58	50	
2	36	34	31	32	56	430	324	184	82	59	50	
3	35	36	31	32	57	418	305	171	79	60	50	
4	34	37	31	32	58	380	305	158	76	61	48	
5	33	38	32	33	59	351	305	152	74	62	48	
6	32	40	32	33	60	322	305	145	71	63	47	
7	32	38	32	33	67	293	299	138	68	64	47	
8	32	36	32	33	74	264	293	134	66	65	46	
9	32	34	32	34	80	235	342	130	63	65	46	
10	32	32	32	34	88	282	330	126	61	61	45	
11	32	30	32	34	95	330	314	123	75	57	45	
12	32	26	32	34	102	419	298	115	74	53	44	
13	32	23	32	34	100	430	281	107	72	53	43	
14	32	33	32	35	99	442	266	106	70	53	46	
15	32	33	32	36	104	430	250	104	68	52	49	
16	32	32	32	36	110	418	235	102	69	52	52	
17	33	32	32	34	144	405	240	100	70	52	55	
18	33	32	32	32	178	430	246	98	71	52	52	
19	34	32	32	34	213	436	252	96	72	48	49	
20	33	32	32	36	244	442	258	94	73	45	46	
21	32	32	33	38	274	446	264	92	74	41	43	
22	32	33	34	40	305	450	270	90	75	45	42	
23	32	33	35	42	318	455	226	88	70	48	40	
24	32	33	36	44	306	418	226	86	65	52	39	
25	32	32	36	46	294	380	225	85	61	51	37	
26	32	31	35	47	281	342	225	86	58	49	36	
27	32	30	34	48	293	355	224	87	56	47	36	
28	31	30	34	48	305	368	224	88	54	46	35	
29	31		32	50	340	360	221	88	52	49	35	
30	30		31	52	378	351	218	88	57	49	35	
31	30		32		408		215	88		49		
Mean	32.5	32.7	32.5	37.6	179	384	269	114	68.7	53.6	44.5	
Run-off acre-feet	2000	1820	2000	2240	11000	22800	16500	7010	4090	3300	2650	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Maroon Creek near Aspen for 1913.
Drainage Area, 42 Square Miles. Altitude, 8,300 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					39		149	124	66	34	28	25
2.....					39		158	116	65	33	28	25
3.....					40		167	108	64	32	28	25
4.....					41		176	101	64	31	28	25
5.....					42		185	97	65	31	28	25
6.....					43		194	93	80	31	28	25
7.....					45	233	204	89	100	31	28	25
8.....					53		194	85	135	31	28	25
9.....					61		185	81	145	31	28	25
10.....					69		176	86	149	31	28	25
11.....					77	204	176	91	140	31	30	25
12.....				25	85		176	89	135	31	31	26
13.....					93		176	87	120	31	31	27
14.....					101		176	85	100	31	31	28
15.....					95		170	83	70	31	31	30
16.....					88		166	81	50	31	31	31
17.....					81		162	81	45	31	31	30
18.....					119		165	81	39	31	31	29
19.....					157		168	81	39	31	30	28
20.....					195	233	172	79	39	31	30	28
21.....					233	263	176	78	39	31	29	29
22.....					204	248	176	76	39	31	29	30
23.....					176	233	176	75	39	31	28	31
24.....					39	149	215	73	42	31	28	31
25.....					39	165	200	72	45	31	26	31
26.....					39	181	190	72	35	30	25	31
27.....					39	192	186	71	35	28	25	31
28.....					39	204	182	70	35	28	25	31
29.....					39	204	179	69	35	28	25	31
30.....					39	204	176	68	35	28	25	31
31.....						204		67		28		31
Mean.....				37.2	119	211	168	84.2	69.6	30.7	28.4	28.1
Run-off acre-feet.....				590	7320	5440	10300	5180	4140	1890	1690	1730

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Maroon Creek near Aspen for 1914.
Drainage Area, 42 Square Miles. Altitude, 8,300 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	31	25	20	17	40	330	295	184	74	46	38	
2	30	24	20	18	41	330	312	196	71	50	38	
3	30	24	20	18	40	312	312	184	67	53	38	
4	29	24	20	19	39	292	312	176	66	61	38	
5	28	25	20	19	38	282	312	173	64	50	38	
6	28	25	19	19	41	254	295	162	64	50	38	
7	28	25	18	19	44	233	295	168	60	50	38	
8	28	24	19	19	47	263	295	149	57	50	37	
9	28	22	20	18	56	210	312	149	58	50	37	
10	28	20	20	18	64	216	295	149	57	48	37	
11	28	19	20	18	72	251	312	144	57	46	37	
12	28	19	19	19	81	282	330	142	58	44	37	
13	28	20	19	20	80	312	312	124	60	44	37	
14	28	20	19	20	79	330	295	124	56	42	37	
15	27	22	20	21	78	365	279	124	53	41	37	
16	26	25	20	22	79	382	279	110	50	41	37	
17	26	24	20	21	97	348	292	110	50	41	36	
18	26	23	20	20	106	382	330	103	50	39	36	
19	25	22	19	22	112	365	295	101	49	39	36	
20	25	20	19	23	154	365	266	95	61	39	36	
21	25	20	19	24	184	365	292	91	58	41	36	
22	25	20	18	26	210	382	263	93	53	41	36	
23	25	20	18	28	218	365	257	91	50	41	36	
24	24	20	18	30	227	382	242	89	50	41	36	
25	22	20	18	32	233	348	233	81	49	39	36	
26	21	20	18	32	248	382	224	87	49	39	35	
27	20	20	17	33	242	365	210	83	44	39	35	
28	22	20	16	34	233	330	204	81	43	39	35	
29	24		16	36	260	295	198	81	43	39	35	
30	27		17	38	279	330	198	78	44	38	35	
31	26		17		312		201	78		38		
Mean	26.3	21.8	18.8	23.4	130	322	276	123	55.5	43.8	36.6	
Run-off acre-feet	1620	1210	1160	1390	7990	19200	17000	7560	3300	2690	2180	

Unless otherwise noted, all discharges are in cubic feet per second.

SNOW MASS CREEK AT SNOW MASS.

Location.—On a private bridge at Stewart's Ranch, in sec. 27, T. 8 S., R. 86 W., half a mile from Snow Mass., Colo. No tributaries between the station and the mouth of the creek.

Records Available.—February 21, 1911, to November 17, 1913.

Drainage Area.—89 square miles.

Gage.—Vertical staff.

Channel.—Practically permanent.

Discharge Measurements.—Made from the bridge during high water and by wading at other times.

Winter Flow.—Ice causes backwater during the winter months, and discharge measurements are made to determine the flow.

Diversions.—There are court decrees for diversion of 29 second-feet from the main stream above the station and 7 second-feet below. There are also decrees for diversions of 73 second-feet from tributaries entering above.

Accuracy.—Owing to the meager gage heights, estimates have been made only for the days when the gage was read. These estimates are considered fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON SNOW MASS CREEK AT SNOW MASS.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913			
May 7	R. H. Fletcher.....	.60	84.3
June 27	R. H. Fletcher.....	1.20	264

FRYING PAN CREEK AT NORRIE, COLO.

Location.—At the highway bridge in Norrie, in sec. 28, T. 8 S., R. 83 W., in the Sopris National Forest, 1 mile above the entrance of the North Fork.

Records Available.—February 18, 1911, to November 30, 1913.

Drainage Area.—112 square miles.

Gage.—Vertical staff.

Channel.—Slightly shifting after high water.

Discharge Measurements.—Made from the bridge.

Winter Flow.—Ice probably causes backwater during the winter months.

Diversions.—No water is diverted from this creek either above or below the station.

Accuracy.—Owing to the high altitude of the drainage basin, alternate melting and freezing causes diurnal fluctuations of stage at certain season; therefore the mean daily stage as determined from one reading may be considerably in error and the estimates can not be considered better than fair or, possibly, good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON FRYING PAN CREEK AT NORRIE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 8	R. H. Fletcher.....	3.80	223
Oct. 17	Robert Follansbee.....	2.46	35.

FRYING PAN CREEK AT THOMASVILLE.

Location.—At a private bridge in sec. 12, T. 8 S., R. 84 W., in the Sopris National Forest, three-fourths of a mile below Thomasville. Nearest tributary, Jakeman Creek, enters 100 yards above.

Records Available.—January 2, 1911, to November 30, 1914.

Drainage Area.—190 square miles.

Gage.—Vertical staff.

Channel.—Practically permanent.

Discharge Measurements.—Made from the bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes backwater during the winter months, and discharge measurements are made to determine the flow.

Diversions.—As there are no court decrees for diversion of water above the station, it is probable that the records represent the natural run-off from the drainage basin.

Accuracy.—Conditions favorable for fairly accurate determination of discharge; results should be reliable.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON FRYING PAN CREEK AT THOMASVILLE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 8	R. H. Fletcher.....	2.20	581	Jan. 15*	R. H. Fletcher.....	0.66	38
Oct. 17	Robert Follansbee.....	.65	65	Feb. 14	R. H. Fletcher.....	0.37	45
				Aug. 12	M. D. Anderson	1.48	219

*Ice conditions.

Discharge of Snow Mass Creek at Snow Mass for 1913.
Drainage Area, 89 Square Miles. Altitude, 6,880 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....							204		90			
2.....					90	221						
3.....											60	
4.....								109				
5.....												
6.....					100					67		
7.....					90		157					
8.....									74			
9.....						221						
10.....											60	
11.....								131				
12.....					157					67		
13.....												
14.....							131					
15.....												
16.....												
17.....						240					60	
18.....								109	74			
19.....					157							
20.....												
21.....							131			60		
22.....									74			
23.....												
24.....												
25.....						187		90				
26.....					187							
27.....						260				60		
28.....							131					
29.....									74			
30.....												
31.....												
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Frying Pan Creek at Norrie for 1913.
Drainage Area, 112 Square Miles. Altitude, 8,431 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					148	600	167	42	51	42	42	
2					167	435	158	42	51	42	42	
3					181	395	148	42	51	42	42	
4					196	360	131	42	51	42	42	
5					211	325	115	42	51	42	42	
6					219	292	108	42	51	42	42	
7					228	278	100	42	61	42	42	
8					236	263	100	42	61	42	42	
9					240	260	100	50	61	42	42	
10					263	260	100	61	61	42	42	
11					320	255	93	56	61	44	42	
12					360	250	86	51	57	46	42	
13					300	230	86	46	54	48	42	
14					360	211	86	42	51	51	42	
15					292	210	86	42	51	42	42	
16				188	188	270	100	42	51	40	42	
17				144	180	325	100	42	51	39	34	
18				100	250	312	100	45	46	39	34	
19				188	395	300	93	48	42	38	34	
20				188	350	270	86	51	42	38	34	
21				163	325	263	80	51	42	37	34	
22				139	325	250	73	51	42	36	34	
23				115	340	236	73	51	42	35	34	
24				94	395	228	80	51	42	34	34	
25				73	395	220	73	51	42	34	34	
26				86	395	211	67	51	42	36	34	
27				100	550	189	61	51	42	38	34	
28				110	710	167	56	51	42	40	34	
29				115	435	167	51	51	42	42	34	
30				131	600	167	46	51	42	42	34	
31					760		42	51		42		
Mean				129	335	273	91.8	47.5	49.2	40.7	38.3	
Run-off* acre-feet				3840	20600	16200	5640	2920	2930	2500	2280	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Frying Pan Creek at Thomasville for 1913.
Drainage Area, 190 Square Miles. Altitude, 7,968 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					377	860	320	124	86	94	70	
2.....					410	895	280	117	86	98	68	
3.....					443	825	280	117	86	101	66	
4.....					476	825	280	117	86	101	66	80
5.....					509	895	280	117	86	86	66	48
6.....					542	825	210	109	86	91	66	51
7.....					575	895	210	101	86	96	66	56
8.....					605	895	210	101	86	101	42	
9.....					520	895	210	101	86	106	66	51
10.....					575	895	210	101	86	111	79	
11.....					825	895	210	101	86	117	42	
12.....					965	895	210	101	86	111	42	
13.....					965	695	180	101	86	106	43	
14.....					965	665	180	101	86	101	44	
15.....					825	635	210	96	86	86	44	
16.....					575	760	320	91	86	72	51	
17.....					520	695	365	86	86	66	52	56
18.....					640	695	320	94	86	69	54	56
19.....					760	760	320	101	86	72	56	48
20.....					640	635	295	98	86	72	56	
21.....					520	635	270	94	94	72	56	
22.....					520	520	245	90	101	72	48	
23.....					635	520	280	86	94	72	52	
24.....					825	520	520	86	86	72	56	
25.....				155	860	465	280	86	86	72	60	
26.....				210	895	465	280	86	86	66	60	
27.....				245	1960	465	280	86	86	72	60	44
28.....				278	1410	465	180	86	86	72	57	
29.....				311	965	465	165	86	86	72	54	
30.....				344	895	320	150	86	90	72	51	44
31.....					825		135	86		71		
Mean.....				257	743	696	254	97.8	87.2	85.2	56.4	
Run-off acre-feet.....				3060	45700	41400	15600	6010	5190	5240	3360	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Frying Pan Creek at Thomasville for 1914.
Drainage Area, 190 Square Miles. Altitude, 7,968 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				49	155	2200	850	440	179	101	83	
2			42	55	136	1900	825	415	172	101	83	
3				60	117	1550	825	390	170	101	74	
4				75	141	1420	825	365	168	101	66	
5			42	90	165	1240	751	415	147	101	61	
6			42	104	189	1180	678	465	126	101	56	
7				94	210	1120	605	372	118	105	52	
8				86	365	1110	650	280	109	100	51	
9				79	520	1340	695	266	117	113	51	
10			42	79	760	1440	646	252	121	117	50	
11				79	760	1540	597	238	126	117	50	
12				80	760	1640	548	224	130	113	50	
13				85	760	1560	538	209	135	109	50	
14		45		125	760	1480	529	194	130	105	50	
15	38		45	245	760	1460	520	180	126	101	50	
16			56	180	782	1430	529	180	126	101	50	
17				140	804	1410	538	180	118	101	50	
18				136	825	1380	548	174	109	101	50	
19			62	132	930	1340	555	168	105	101	50	
20				128	1040	1290	575	174	101	98	50	
21				121	1140	1250	600	180	180	96	50	
22				121	1240	1200	760	195	162	109	50	
23				135	1340	1160	686	210	144	107	50	
24				150	1260	1110	612	200	126	105	50	
25			51	170	1040	1110	538	189	120	103	50	
26				195	1190	1110	464	175	114	101	50	
27				188	1340	1110	390	194	109	96	51	
28				180	1340	1000	400	201	105	91	50	
29				155	1300	895	410	228	101	86	49	
30			45	155	1260	895	420	207	101	83	49	
31					1950		465	186		83		
Mean	40.0	45.0	48.0	122	817	1330	599	250	130	102	54.2	
Run-off acre-feet	2460	2500	2950	7260	50200	79100	36800	15400	7740	6270	3220	

Unless otherwise noted, all discharges are in cubic feet per second.

NORTH FORK OF FRYING PAN CREEK NEAR NORRIE.

Location.—On a highway bridge in sec. 21, T. 8 S., R. 83 W., in the Sopris National Forest, about 1 mile from Norrie. No tributaries between the station and the mouth of the creek.

Records Available.—February 18, 1911, to November 30, 1914.

Drainage Area.—42 square miles.

Gage.—Vertical staff.

Channel.—Practically permanent.

Discharge Measurements.—Made from the bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes little if any backwater during the winter months.

Diversions.—No water is diverted above the station, so the records represent the natural run-off.

Accuracy.—owing to the scattering gage heights and the probable error in mean daily stage as determined from one reading, the estimates cannot be considered better than fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS NORTH FORK FRYING PAN CREEK NEAR NORRIE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 8	R. H. Fletcher	1.55	175	Aug 12	M. D. Anderson	0.65	29
Oct. 17	Robert Follansbee32	11.				

CRYSTAL RIVER AT MARBLE.

Location.—Near the electric railway bridge of the Colorado-Yule Marble Co., in sec. 26, T. 11 S., R. 88 W., half a mile west of Marble. Nearest tributary, Carbonate Creek, enters at Marble.

Records Available.—November 1, 1910, to November 30, 1914.

Drainage Area.—77 square miles.

Gage.—A vertical hook gage graduated to hundredths of a foot.

Channel.—Shifts slightly at long intervals.

Discharge Measurements.—Made by wading.

Winter Flow.—Gage heights at this station little, if any, affected by ice.

Diversions.—There are no court decrees for diversions above the station, but for 114 second-feet below Marble.

Accuracy.—Conditions are favorable for fairly accurate results and the estimates are considered reliable.

Co-operation.—The field data are furnished through the courtesy of the Colorado-Yule Marble Co. to the United States Geological Survey, from whom records were obtained.

DISCHARGE MEASUREMENTS ON CRYSTAL RIVER AT MARBLE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 14	H. V. Knouse.....	3.68	467	Feb. 16	R. H. Fletcher.....	1.72	24
May 29	H. V. Knouse.....	4.73	1080				

EAST ELK CREEK NEAR NEW CASTLE.

Location.—At the highway bridge on line between secs. 24 and 25, T. 5 S., R. 91 W., $2\frac{1}{2}$ miles northwest of New Castle, Colo. No tributaries between the station and the mouth.

Records Available.—January 19, 1911, to December 8, 1913.

Drainage Area.—60 square miles.

Gage.—Vertical staff.

Channel.—Permanent prior to high water of 1912, when it shifted.

Discharge Measurements.—Made from the bridge during high water and by wading during ordinary stages.

Winter Flow.—Little backwater from ice at this station during the winter, except for short periods.

Diversions.—There are court decrees for diversion of 43 second-feet from East Elk Creek, chiefly above the station.

Accuracy.—Owing to the very meager gage heights, estimates have not been made other than for the days having gage heights. These estimates should be reliable prior to high water, but are somewhat uncertain for the later part of the year, owing to a shift in the channel.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON EAST ELK CREEK NEAR NEW CASTLE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 3	R. H. Fletcher.....	1.28	28
June 25	R. H. Fletcher.....	1.48	53
Sept. 3	R. H. Fletcher.....	.62	3.7
Oct. 20	Robert Follansbee....	.90	9.5

Discharge of North Fork Frying Pan Creek near Norrie for 1913.
Drainage Area, 42 Square Miles. Altitude, 8,431 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					120	296	96	18	10	16	13	
2.....					120	288	90	16	10	18	10	
3.....					120	280	84	14	10	26	10	
4.....					120	265	80	12	10	26	10	
5.....					120	250	76	10	10	26	10	
6.....					185	235	72	10	12	26	10	
7.....					185	220	69	11	14	26	10	
8.....					163	236	66	11	16	26	10	
9.....					165	252	63	11	18	26	10	
10.....					170	260	60	12	18	26	10	
11.....					200	268	56	12	17	26	10	
12.....					240	260	45	12	16	24	10	
13.....					255	220	45	13	15	22	10	
14.....					208	210	50	13	14	20	10	
15.....				84	163	200	60	13	12	18	10	
16.....				56	165	185	150	13	10	16	10	
17.....				60	185	176	185	13	10	13	10	
18.....				70	210	170	150	13	10	14	10	
19.....				95	300	163	120	13	10	16	10	
20.....				120	225	163	101	13	10	16	10	
21.....				120	190	163	84	13	11	16	10	
22.....				120	185	163	69	10	12	17	10	
23.....				120	185	163	75	10	12	17	10	
24.....				115	240	156	80	10	13	18	10	
25.....				110	305	149	56	10	13	18	10	
26.....				105	255	141	46	10	13	18	10	
27.....				101	500	140	35	10	13	18	10	
28.....				105	550	135	30	10	14	18	10	
29.....				110	425	130	26	10	14	18	10	
30.....				115	335	105	23	10	15	17	10	
31.....					305		20	10		16		
Mean.....				100	229	201	73	11.8	12.8	19.9	10.1	
Run-off acre-feet.....				3170	14100	12000	4490	726	762	1220	6.01	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of North Fork Frying Pan Creek near Norrie for 1914.
Drainage Area, 42 Square Miles. Altitude, 8,431 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				12	66	595	163	92	27	13	13	
2.....				12	76	490	152	82	26	13	13	
3.....				12	62	454	159	72	22	13	13	
4.....				20	56	417	166	62	18	13	12	
5.....				28	68	380	174	59	17	13	12	
6.....				35	80	341	174	56	15	13	12	
7.....				32	92	314	174	53	14	13	11	
8.....				30	111	278	166	50	13	13	11	
9.....				24	130	243	159	46	13	13	10	
10.....				18	220	296	152	43	13	12	10	
11.....				22	268	350	144	40	13	12	10	
12.....				26	259	388	137	35	13	12	10	
13.....				30	250	425	130	30	13	12	9	
14.....				35	240	432	124	26	13	12	9	
15.....				62	231	440	117	22	13	14	9	
16.....				69	231	350	110	28	13	16	9	
17.....				45	231	360	110	34	13	17	8	
18.....				50	255	370	110	40	13	18	8	
19.....				54	294	380	110	45	13	18	8	
20.....				58	333	350	110	45	15	18	8	
21.....				62	371	335	110	45	35	18	8	
22.....				64	410	320	104	45	30	18	8	
23.....				66	380	320	98	38	25	17	8	
24.....				69	365	320	92	32	20	16	8	
25.....				69	350	306	76	26	15	16	8	
26.....				69	365	292	76	30	13	15	7	
27.....				69	392	230	76	35	13	14	7	
28.....				66	410	168	76	33	13	13	7	
29.....				62	395	171	76	32	13	13	7	
30.....				56	425	174	84	30	13	13	7	
31.....					510		92	28		13		
Mean.....				44.2	256	343	123	43.0	16.7	14.3	9.3	
Run-off acre-feet.....				2630	15700	20400	7560	2640	994	879	553	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Crystal River at Marble for 1913.
Drainage Area, 77 Square Miles. Altitude, 7,800 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	34	30	32	44	213	1040	575	146	84	48	44	41
2.....	35	30	30	44	167	1040	575	189	84	53	41	30
3.....	35	25	29	44	167	1100	500	167	84	58	42	35
4.....	35	29	29	48	167	975	475	156	84	64	43	37
5.....	29	29	30	41	226	915	452	146	84	58	37	36
6.....	28	29	30	41	345	855	430	146	77	58	42	34
7.....	29	29	29	40	345	855	452	127	84	58	43	33
8.....	35	29	30	37	385	740	452	127	77	58	30	40
9.....	34	30	29	37	365	768	430	127	146	53	36	32
10.....	35	29	30	35	430	712	525	118	118	53	39	32
11.....	35	29	31	35	525	630	408	127	84	58	41	29
12.....	33	28	31	40	685	500	325	167	84	58	37	33
13.....	32	29	30	53	630	430	305	136	77	64	44	29
14.....	32	28	26	77	525	475	325	127	70	58	44	27
15.....	32	29	29	92	365	575	305	118	77	64	42	38
16.....	28	28	28	109	325	795	270	100	64	53	30	35
17.....	30	30	32	127	345	885	270	109	64	58	48	33
18.....	38	29	27	127	385	975	288	100	64	53	44	37
19.....	33	30	27	127	475	975	305	109	58	53	43	37
20.....	31	30	27	136	365	975	270	100	48	48	44	27
21.....	32	29	26	156	288	915	270	109	53	53	44	24
22.....	33	29	25	167	325	740	226	100	70	53	42	26
23.....	33	28	26	127	500	825	255	100	64	48	24	27
24.....	30	29	28	100	658	685	305	92	58	48	29	31
25.....	32	32	22	84	795	575	226	92	53	48	40	35
26.....	31	20	24	84	975	630	189	84	58	48	42	36
27.....	28	29	24	92	975	768	167	84	53	48	42	36
28.....	30	29	27	118	885	795	146	92	53	48	42	32
29.....	30		28	146	1160	685	146	84	58	39	39	32
30.....	30		28	189	1160	575	146	84	53	44	39	36
31.....	30		42		1040		146	84		44		32
Mean.....	32.0	28.7	28.6	86.6	522	780	328	118	72.8	53.2	39.9	33.0
Run-off acre-feet.....	1970	1590	1760	5150	32100	46400	20200	7260	4330	3270	2370	2030

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Crystal River at Marble for 1914.
Drainage Area, 77 Square Miles. Altitude, 7,800 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	31	35	41	53	127	1720	1340	525	127	77	70	
2.....	30	36	42	64	118	1530	1340	452	127	84	70	
3.....	29	27	41	70	127	1340	1280	452	118	226	64	
4.....	28	25	41	84	136	1160	1460	406	118	213	64	
5.....	30	32	41	92	146	975	1720	355	109	146	58	
6.....	28	25	41	92	146	825	1400	325	109	127	58	
7.....	28	25	41	84	167	685	1340	270	109	109	70	
8.....	28	24	35	84	226	575	1280	345	109	118	84	
9.....	28	25	48	77	325	550	1340	255	109	127	84	
10.....	27	24	44	77	430	712	1220	240	109	118	84	
11.....	25	24	42	70	452	975	1160	213	100	109	77	
12.....	28	24	44	77	385	1460	1160	213	109	100	84	
13.....	28	22	44	84	430	1660	1160	213	92	100	84	
14.....	27	26	48	92	500	1720	1100	189	92	84	84	
15.....	27	25	48	118	525	1720	975	189	92	84	70	
16.....	28	25	58	136	475	1460	885	178	92	92	64	
17.....	30	23	58	118	550	1600	855	167	92	92	64	
18.....	30	24	64	109	685	1720	855	178	84	92	64	
19.....	30	23	58	100	740	1860	885	167	92	92	64	
20.....	28	24	58	118	855	1920	855	167	92	92	64	
21.....	28	24	58	136	975	1720	795	167	167	100	64	
22.....	29	20	64	146	1040	1790	795	189	127	100	64	
23.....	29	29	58	146	1160	1720	630	178	109	100	64	
24.....	30	23	53	127	1040	1660	630	156	92	92	58	
25.....	28	22	53	127	975	1600	550	136	92	92	58	
26.....	27	23	53	136	975	1340	525	189	84	84	58	
27.....	28	36	58	127	1100	1340	575	167	84	84	64	
28.....	14	36	53	127	975	1400	575	167	84	84	64	
29.....	29		53	118	1160	1460	575	156	77	77	64	
30.....	33		53	127	1340	1400	525	146	77	70	58	
31.....	32		53		1600		712	136		70		
Mean.....	28.2	26.1	49.9	104	641	1390	984	235	102	104	68.0	
Run-off acre-feet.....	1730	1450	3070	6190	39400	82700	60500	14400	6070	6400	4050	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of East Elk Creek near New Castle for 1913.
Drainage Area, 60 Square Miles. Altitude, 5,552 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						335	31	3				
2.....							31	3		7	7	
3.....					31						7	7
4.....				7		250			4			
5.....	7										7	
6.....						175					7	
7.....			6									
8.....	7						10		4		7	7
9.....							10					
10.....					132		10				7	
11.....												
12.....								3			7	
13.....			7		160				4	10		
14.....						95	7	3				
15.....			13				7	3			7	
16.....				17	55	210	7		3	10		
17.....							7				7	
18.....						73				10		
19.....			10	27		73		3	3			
20.....					55	55		3			7	
21.....												
22.....			7	31		42		3				
23.....				17	119			3		7		
24.....		7									7	
25.....		6									7	
26.....					230	55			7	7	7	
27.....				31				3				
28.....				31								
29.....			8							7		
30.....					290					7		
31.....			10		290					7		
Mean.....												
Run-off acre-feet....												

Unless otherwise noted, all discharges are in cubic feet per second.

TAYLOR RIVER AT ALMONT.

Location.—At highway bridge in Almont, in sec. 22, T. 51 N., R. 1 E., New Mexico principal meridian, 100 yards above the junction of Taylor and East Rivers.

Records Available.—July 27, 1910, to November 30, 1913.

Drainage Area.—413 square miles.

Gage.—Vertical staff.

Channel.—Practically permanent.

Discharge Measurements.—Made from highway bridge.

Winter Flow.—Ice causes backwater.

Diversions.—There are no court decrees for diversions from Taylor River, but from Willow Creek, which enters above, there are decrees for 12 second-feet diversion.

Accuracy.—Conditions are favorable for accurate results; the estimates are considered good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Reclamation Service, by whom the field data are furnished. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON TAYLOR RIVER AT ALMONT.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
July 12	E. H. Swett.....	2.35	407
Sept. 10	E. H. Swett.....	2.00	235

GUNNISON RIVER NEAR GUNNISON.

Location.—At highway bridge, 2 miles below Gunnison. Nearest tributary, Tomichi Creek, enters about 1 mile below.

Records Available.—November 27, 1910, to November 30, 1914.

Drainage Area.—1,010 square miles.

Gage.—Chain gage; datum unchanged.

Channel.—Somewhat shifting.

Discharge Measurements.—Made from bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—There are court decrees for diversions of 250 second-feet from Gunnison River, between this station and the forks at Almont, and diversions of 270 second-feet from intervening tributaries.

Co-operation.—Station is maintained in co-operation with the United States Geological Survey.

DISCHARGE MEASUREMENTS ON GUNNISON RIVER AT GUNNISON.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 11	Robt. Follansbee	2.26	2580	Jan. 19	R. H. Fletcher.....	1.3	223
July 19	R. H. Fletcher.....	0.88	873	Feb. 20	R. H. Fletcher.....	1.6	220
Aug. 27	R. H. Fletcher.....	0.43	446	May 7	R. H. Fletcher.....	1.29	1400
				May 30	Robert Follansbee....	3.53	5010
				Aug. 18	M. D. Anderson.....	.73	665

EAST RIVER AT ALMONT.

Location.—At highway bridge at Almont, 200 feet above the junction of East and Taylor Rivers.

Records Available.—July 27, 1910, to November 30, 1913. A station was maintained at this point from April 15 to October 8, 1905, but the gage was referred to a different datum.

Drainage Area.—295 square miles.

Gage.—Vertical staff.

Channel.—Slightly shifting.

Discharge Measurements.—Made from bridge.

Winter Flow.—Ice causes backwater in varying amounts, but no measurements have been made to determine this.

Diversions.—There are court decrees for diversion of 78 second-feet from East River, above the station, and 52 second-feet from tributaries.

Accuracy.—Conditions are favorable, and therefore the results should be reliable.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Reclamation Service, by whom the field data are furnished. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON EAST RIVER AT ALMONT.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
July 12	E. H. Swett.....	1.75	380
Sept. 10	E. H. Swett.....	1.25	150

Discharge of Taylor River at Almont for 1913.
Drainage Area, 413 Square Miles. Altitude, 8,031 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				160	360	1080	590	74	132	235	235	
2.....				178	360	1140	534	74	132	235	235	
3.....				280	360	1080	520	74	160	235	235	
4.....				195	360	1020	520	61	160	235	235	
5.....				160	360	992	506	61	160	235	235	
6.....				215	590	970	506	50	178	235	235	
7.....				195	670	970	464	50	178	235	235	
8.....			146	146	715	970	464	56	195	235	235	
9.....			146	178	520	1020	464	50	195	235	235	
10.....			160	160	715	1380	485	50	195	235	235	
11.....			160	160	810	1500	450	50	235	235	235	
12.....			160	195	810	1380	438	50	235	235	235	
13.....			160	195	915	1250	402	61	235	235	215	
14.....			160	215	860	970	378	74	235	235	215	
15.....			110	235	670	915	342	74	235	235	235	
16.....			110	280	715	882	290	91	235	235	235	
17.....			110	235	810	948	258	91	235	235	235	
18.....			110	305	715	970	215	91	235	235	235	
19.....			110	330	670	948	154	100	195	235	235	
20.....			110	280	590	970	110	110	195	235	235	
21.....			110	280	606	970	91	110	235	235	235	
22.....			110	280	688	970	82	100	235	235	235	
23.....			110	235	688	948	74	91	235	235	235	
24.....			132	258	810	915	91	91	235	235	235	
25.....			146	258	1020	760	110	91	235	235	235	
26.....			146	235	1310	760	100	100	235	235	235	
27.....			146	280	1500	715	100	110	235	235	235	
28.....			132	330	1640	715	91	110	235	235	235	
29.....			132	420	1640	715	91	121	235	235	235	
30.....			160	420	1500	606	91	132	235	235	235	
31.....			160		1440		74	132		235		
Mean.....			135	243	820	981	293	83.2	210	235	234	
Run-off acre-feet.....			6430	14500	50400	58400	18000	5120	12500	14400	13900	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Gunnison River near Gunnison for 1913.
Drainage Area, 1,010 Square Miles. Altitude, 7,673 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					1940	2780	1460	522	405	480	340	
2.....					1600	2780	1400	522	340	340	340	
3.....					1600	2620	1210	442	405	405	405	
4.....					1340	2380	1030	480	405	405	340	
5.....					1400	2380	1090	480	405	405	340	
6.....					1870	2310	1030	442	405	372	285	
7.....					2460	2020	975	405	340	340	340	
8.....					2460	1940	975	340	405	405	340	
9.....					1870	1870	865	405	442	405	340	
10.....					2310	2860	920	405	480	405	340	
11.....					2380	2940	865	522	480	372	285	
12.....					2540	2860	865	612	340	405	340	
13.....					2700	2620	865	480	405	405	285	
14.....					2160	2020	760	480	405	405	340	
15.....					1600	2240	865	480	405	405	340	
16.....					1460	2310	865	480	480	405	240	
17.....					1600	2380	865	442	340	340	285	
18.....					1600	2540	865	372	405	372	340	
19.....					1730	2620	760	405	405	405	340	
20.....					1530	2310	975	405	442	405	340	
21.....					1400	2160	1090	480	340	372	240	
22.....					1660	1940	1460	480	285	405	340	
23.....					1730	2020	1210	340	372	442	340	
24.....					2380	1800	865	405	405	405	285	
25.....					2620	1940	865	405	405	372	312	
26.....					2940	2020	812	405	405	405	285	
27.....					3180	1870	760	405	340	340	340	
28.....					2780	1800	660	340	442	372	285	
29.....					2540	1600	522	405	405	340	340	
30.....					2860	1600	565	405	405	372	285	
31.....					3020		565	405		405		
Mean.....					2110	2250	932	439	398	391	320	
Run-off acre-feet.....					130000	134000	57300	27000	23700	24000	19000	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Gunnison River at Gunnison for 1914.
Drainage Area, 1,010 Square Miles. Altitude, 7,673 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				240	750	5680	2930	1680	560	560	560	
2.....				340	865	5500	2930	1680	560	560	560	
3.....				372	1260	5150	2760	1400	560	650	560	
4.....				405	1400	4800	2550	1400	560	750	560	
5.....				405	1680	4800	2760	1400	560	650	560	
6.....				405	1680	4620	2600	1400	560	560	560	
7.....				405	1820	4620	2600	1260	560	560	560	
8.....				442	1980	4620	2440	1260	480	560	560	
9.....				480	2280	4800	2440	1260	480	560	560	
10.....				480	2760	4980	2280	1120	480	560	560	
11.....				480	3100	4650	2130	1120	480	560	560	
12.....				480	3420	4280	2130	1260	480	560	560	
13.....				480	3420	4980	2130	1120	480	560	560	
14.....				480	3420	5150	1980	1120	480	560	560	
15.....				522	3600	4980	1980	1120	480	560	560	
16.....				522	3760	4980	1980	1400	480	650	560	
17.....				480	3940	4710	1820	1260	480	650	560	
18.....				522	4100	4780	1820	1120	560	560	560	
19.....				522	4620	4800	1820	990	480	560	480	
20.....				480	4800	4620	1820	865	480	560	480	
21.....				522	4980	4620	1680	865	560	560	408	
22.....				522	5150	4450	1680	750	480	650	408	
23.....				565	5150	4450	1820	750	480	650	408	
24.....				565	5320	3940	1680	750	480	560	408	
25.....				565	4800	3760	1680	650	480	560	343	
26.....				565	4980	3420	1680	650	550	560	343	
27.....				612	5150	3180	1680	650	560	560	343	
28.....				660	5410	3100	1820	650	480	560	343	
29.....				760	5150	3010	1680	650	480	650	343	
30.....				760	5500	2930	1680	560	480	560	343	
31.....					5500		1680	560		560		
Mean.....				505	3600	4480	2100	1060	509	586	491	
Run-off acre-feet.....				30000	221000	267000	129000	65200	30300	36000	29200	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of East River at Almont for 1913.
Drainage Area, 295 Square Miles. Altitude, 8,031 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				62	710	1520	550	32	45	140	90	
2.....				55	614	1280	534	32	45	140	90	
3.....				90	646	1220	534	32	55	140	90	
4.....				120	630	1200	534	26	55	140	90	
5.....				140	755	1220	486	26	55	140	90	
6.....				170	950	1180	510	22	55	140	90	
7.....				155	1100	1150	486	22	55	140	90	
8.....			58	140	1000	1280	486	22	70	140	90	
9.....			55	115	950	1360	486	22	90	140	90	
10.....			55	115	1080	1430	456	22	115	140	90	
11.....			55	128	1220	1460	456	22	140	140	90	
12.....			55	155	1320	1300	456	22	140	140	90	
13.....			55	470	1360	1220	414	19	140	140	90	
14.....			55	550	1360	1200	340	20	128	140	90	
15.....			45	510	900	1220	268	22	140	140	90	
16.....			45	630	1000	1180	225	22	140	140	90	
17.....			45	550	950	1120	155	22	140	140	90	
18.....			45	590	1250	1180	102	22	140	140	90	
19.....			45	630	1220	1120	70	22	115	140	90	
20.....			45	670	1250	1080	70	22	115	140	90	
21.....			45	646	1150	1000	70	26	115	140	90	
22.....			45	590	1100	1000	62	26	115	140	90	
23.....			45	614	1220	920	55	22	115	140	90	
24.....			58	550	1300	850	70	22	115	140	90	
25.....			62	614	1430	820	62	22	115	140	90	
26.....			62	614	1430	710	62	26	102	140	90	
27.....			62	590	1360	630	62	26	115	140	90	
28.....			58	590	1300	630	55	26	115	140	90	
29.....			55	614	1390	550	50	29	115	115	90	
30.....			55	710	1460	550	45	32	120	90	90	
31.....			62		1320		36	45		90		
Mean.....			52.1	406	1120	1090	266	25.0	104	136	90	
Run-off acre-feet.....			2480	24200	68900	64900	16400	1540	6190	8360	5360	

Unless otherwise noted, all discharges are in cubic feet per second.

CEMENT CREEK NEAR CRESTED BUTTE.

Location.—At Ahren's ranch, in sec. 22, T. 14 S., R. 85 W., about 7 miles southeast of Crested Butte. No tributaries between the station and the mouth.

Records Available.—November 23, 1910, to November, 30, 1913.

Drainage Area.—32 square miles.

Gage.—Vertical staff.

Channel.—Somewhat shifting after high water.

Discharge Measurements.—Made by wading, except during extreme flood stage, when they are made from a foot-bridge.

Winter Flow.—Ice causes little if any backwater at this station, owing to hot springs above.

Diversions.—There are court decrees for diversions of 8.5 second-feet from Cement Creek above the station.

Accuracy.—Estimates for periods prior to the high water are considered reliable; after that period, when a shift occurred, they were obtained by the indirect method, and are only fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON CEMENT CREEK NEAR CRESTED BUTTE.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913			
May 10	Robert Follansbee.....	1.00	77
July 18	K. H. Fletcher.....	.75	34

QUARTZ CREEK NEAR PITKIN.

Location.—On highway bridge in sec. 8, T. 50 N., R. 4 E., New Mexico principal meridian, 1 mile southwest of Pitkin. Nearest tributary enters about 2 miles below the station.

Records Available.—December 12, 1910, to December 18, 1913.

Drainage Area.—53 square miles.

Gage.—Vertical staff.

Channel.—Apparently permanent.

Discharge Measurements.—Made by wading.

Winter Flow.—Ice causes little if any backwater at this station.

Diversions.—No water is diverted above the station. Below the station there are court decrees for 30 second-feet.

Accuracy.—Owing to the high altitude of the drainage basin, alternate melting and freezing may cause diurnal fluctuations in stage at certain seasons; therefore the mean daily stage as determined from one reading may be considerably in error. For this reason the estimates can not be considered better than fair, or, possibly, good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON QUARTZ CREEK NEAR PITKIN.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913			
May 8	Robert Follansbee.....	1.08	66
July 17	R. H. Fletcher.....	.97	52

SAPINERO CREEK¹ AT SAPINERO.

Location.—At highway bridge in sec. 28, T. 49 N., R. 4 W., New Mexico principal meridian, half a mile northeast of Sapinero. No tributaries below the station.

Records Available.—March 17, 1911, to September 30, 1914.

Drainage Area.—84 square miles.

Gage.—Vertical staff.

Channel.—Shifting after high water.

Discharge Measurements.—Made from bridge during high water by wading at ordinary stages.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—Water sufficient to irrigate approximately 300 acres is diverted above the station.

Accuracy.—Owing to the shifting channel and the infrequency of gage heights and measurements the estimates can not be considered better than approximate or fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON SAPINERO CREEK AT SAPINERO.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
May 15	Robert Follansbee.....	4.12	199	May 30	Robert Follansbee.....	4.88	524
July 22	R. H. Fletcher.....	3.24	25				
Aug. 29	R. H. Fletcher.....	3.03	9.4				
Oct. 24	Robert Follansbee...	3.08	15				

¹Known locally as Soap Creek.

Discharge of Cement Creek near Crested Butte for 1913.
Drainage Area, 32 Square Miles. Altitude, 8,867 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					29	67	76	39	23	22	11	
2.....	10				31	23	76	40	27	25	11	
3.....	10				33	76	76	32	26	24	12	
4.....					33	165	76	23	25	23	14	
5.....	8				33	140	76	27	25	20	14	
6.....	8				36	129	67	23	22	16	14	
7.....					45	118	58	27	20	18	12	
8.....					39	140	86	27	18	20	11	
9.....	8	6			53	118	42	27	16	20	11	
10.....		6			76	118	42	27	18	20	11	
11.....	10				108	118	42	27	22	16	10	
12.....	8				140	118	50	32	25	16	9	
13.....		6			96	118	48	36	24	16	10	
14.....	6	6			96	118	46	34	23	16	11	
15.....		6			96	140	44	26	20	15	9	
16.....	6				107	140	42	24	16	14	9	
17.....					96	140	39	22	20	15	10	
18.....	8				107	140	36	19	16	16	11	
19.....					118	140	47	16	16	15	10	
20.....					96	118	58	23	16	14	9	
21.....					96	140	42	23	16	15	9	
22.....					118	129	59	23	16	16	9	
23.....					96	118	76	23	16	15	9	
24.....					140	118	65	23	16	14	9	
25.....					118	140	54	23	16	14	8	
26.....					118	129	43	23	16	12	7	
27.....				22	129	118	31	23	16	11	9	
28.....				22	140	118	34	27	16	12	7	
29.....				22	190	104	35	32	16	14	7	
30.....				21	140	90	36	36	16	12	7	
31.....					140		38	30		11		
Mean.....	8	6			93.9	120	52.9	27.0	19.3	16.0	10.0	
Run-off acre-feet.....	492	333			5740	7140	3250	1660	1150	984	595	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Quartz Creek near Pitkin for 1913.
Drainage Area, 54 Square Miles. Altitude, 9,190 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....							90		49			
2.....								67				
3.....								65				
4.....							67				42	
5.....									50	41	37	
6.....						110						
7.....											38	
8.....					65			55		42		36
9.....						136			50			
10.....						149						36
11.....								55	49			
12.....					110							
13.....										46	38	
14.....						183						
15.....					67						35	
16.....				44		166						35
17.....							52			48		
18.....					110		55					
19.....				40								
20.....									46		37	
21.....					67	136			46			
22.....								55			36	
23.....				30						49		
24.....							99					
25.....						110	90			42	42	
26.....						99						
27.....					149		77			45		
28.....								55	48	47		
29.....					267*							34
30.....						90						38
31.....										44		
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Sapinero Creek at Sapinero for 1913.
Drainage Area, 84 Square Miles. Altitude, 7,245 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....												
2.....												16
3.....											20	
4.....												16
5.....							45			16		
6.....										8	16	
7.....							45	16	16			
8.....									16			
9.....										16		
10.....						164						
11.....						164						
12.....							30	20				
13.....											24	
14.....												
15.....					201							
16.....						126					16	
17.....						144						
18.....								8	16			
19.....						126		8	16		16	
20.....						108			8			
21.....						126						
22.....						108	30		16			
23.....						108	30	12				
24.....									16			
25.....						90			24		16	
26.....												
27.....						90	20		16		16	
28.....												
29.....									24			
30.....										16		
31.....												
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Sapinero Creek at Sapinero for 1914.
Drainage Area, 84 Square Miles. Altitude, 7,245 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....												
2.....					182			56				
3.....						590		48				
4.....					228							
5.....				163			143	48				
6.....												
7.....				120		264	120	48	30			
8.....				99								
9.....				99	348				24			
10.....					348	264			24			
11.....					394		80					
12.....						440	63					
13.....							63					
14.....												
15.....				196	790							
16.....				196		440	63					
17.....							63		20			
18.....					565	394			16			
19.....								35				
20.....												
21.....				246	640		56					
22.....				228		348		35				
23.....				228					16			
24.....												
25.....				196								
26.....					540	264			16			
27.....												
28.....				182	490							
29.....												
30.....					540	168	56		16			
31.....								30				
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

UNCOMPAHGRE RIVER AT OURAY.

Location.—Near highway bridge in sec. 31, T. 44 N., R. 7 W., New Mexico principal meridian, half a mile south of Ouray, Colo. Nearest tributary, Canon Creek, enters 150 feet below; nearest tributary above is Bear Creek.

Records Available.—January 25, 1911, to November 30, 1914, January 7 to March 17, 1908, records were kept at the power plant of the Ouray Electric Light & Power Co., 1 mile south of Ouray, and were furnished through the courtesy of Wheeler & Whinnerah.

Drainage Area.—44 square miles.

Gage.—Vertical staff.

Channel.—Permanent, except at time of high water, when channel scours and fills.

Discharge Measurements.—Made from bridge during high water and by wading at ordinary stages.

Winter Flow.—Little if any backwater from ice at this station, as channel remains open during the year.

Diversions.—Water is diverted 2 miles above the station by the Ouray Light & Power Co. This amounts approximately to 8 second-feet and is returned to the river below the station.

Accuracy.—Owing to the high altitude of the drainage basin, alternate melting and freezing may cause diurnal fluctuations in stage at certain seasons. Therefore the mean daily stage as determined from one reading may be considerably in error. For this reason the estimates can not be considered better than fair, or, possibly, good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON UNCOMPAHGRE RIVER AT OURAY.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 12	Robert Follansbee.....	2.25	253	Jan. 18	R. H. Fletcher.....	0.04	3.7
July 20	R. H. Fletcher.....	1.00	36	May 26	Robert Follansbee....	2.35	250
Aug. 31	R. H. Fletcher.....	.78	20	May 31	T. J. Watkins.....	3.20	587
Sept. 1	R. H. Fletcher.....	.68	22	July 2	T. J. Watkins.....	2.30	272
Oct. 22	Robert Follansbee....	.56	17	Aug. 20	M. D. Anderson.....	1.22	47
				Oct. 18	Follansbee & Watkins.	1.00	25

UNCOMPAHGRE RIVER BELOW OURAY.

Location.—At the lowest bridge in Ouray, one-third mile below the railroad station. It is below all tributaries in Ouray.

Records Available.—May 12, 1913, to October 31, 1914.

Drainage Area.—76 square miles.

Gage.—Vertical staff.

Control.—Shifting.

Discharge Measurements.—Made from bridge and by wading.

Winter Flow.—Ice causes little or no backwater as the warm springs above prevent freezing.

Diversions.—There are no diversions which are not returned to the river above the station.

Accuracy.—Owing to the high altitude of the station (7,700 feet), there are diurnal fluctuations of stage at certain seasons, due to alternate melting and freezing, and the mean daily gage height, based on morning and evening readings and the maximum stage for the 24-hour period, may be somewhat in error. For this reason, and because of the shifting character of the channel, the estimates can not be considered better than fair, or, possibly, good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS UNCOMPAHGRE RIVER BELOW OURAY.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 12	Robert Follansbee....	3.50	518	Jan. 17	R. H. Fletcher.....	1.78	29
July 20	R. H. Fletcher.....	2.75	166	May 26	Robert Follansbee....	4.18	722
Aug. 31	R. H. Fletcher.....	2.43	109	May 31	T. J. Watkins.....	4.62	1250
Sept. 1	R. H. Fletcher.....	2.35	86	June 3	U. S. R. S. Engineer..	4.02	856
Oct. 22	Robert Follansbee....	2.10	58	July 2	T. J. Watkins.....	3.50	481
				Aug. 20	M. D. Anderson.....	2.58	91
				Oct. 18	Follansbee-Watkins...	2.45	61

UNCOMPAHGRE RIVER AT MONTROSE.

Location.—At highway bridge, one-fourth mile west of Montrose. Nearest important tributary, Happy Canyon Creek, enters about 2 miles below.

Records Available.—April 22, 1903, to December 16, 1913.

Drainage Area.—565 square miles.

Gage.—Vertical staff; location and datum unchanged.

Channel.—Extremely shifting.

Discharge Measurements.—Made from the bridge.

Winter Flow.—Although ice forms along the edges of the river during the winter months, the river does not freeze over. Observations of gage heights are, however, discontinued during November, December, January, February, and March.

Diversions.—Uncompahgre River is so overappropriated that the United States Reclamation Service is constructing a tunnel and canal to divert 1,300 second-feet from Gunnison River into the Uncompahgre above Uncompahgre.

Accuracy.—Although the channel is extremely shifting, sufficient discharge measurements were made to afford data for estimates by the indirect method, and these estimates may be considered reliable.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Reclamation Service, by which the field data are furnished. Records furnished by the United States Geological Survey.

**DISCHARGE MEASUREMENTS ON THE UNCOMPAHGRE RIVER
NEAR MONTROSE.**

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 29	E. H. Swett.....	2.60	60
May 5	E. H. Swett.....	3.18	145
May 27	E. H. Swett.....	4.28	586
June 4	E. H. Swett.....	3.20	168
June 21	E. H. Swett.....	3.70	310
July 10	E. H. Swett.....	3.22	165
July 30	E. H. Swett.....	2.45	28
Aug. 16	E. H. Swett.....	2.77	68
Oct. 23	E. H. Swett.....	2.10	7.6

Discharge of Uncompahgre River at Ouray for 1913.
Drainage Area, 44 Square Miles. Altitude, 7,710 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	3	2.5	3	16	50	350	120	30	24	20	12	9
2	3	2	3	16	50	365	120	26	23	20	10	8
3	3	2	3	13	50	350	120	26	22	24	12	9
4	3.5	2	3	10	66	285	108	26	22	24	12	8
5	3.5	2	3	13	76	272	108	24	51	24	10	4.5
6	2	2	3	13	86	216	108	24	54	22	10	4.5
7	2	2	3	13	110	206	97	24	54	22	9	4.5
8	2	2	3	13	110	206	86	22	54	22	9	4.5
9	2	2	3	10	124	178	86	20	115	22	9	3
10	3	2	3	10	124	161	81	20	74	32	8	3
11	3	2	3	8	124	145	72	26	51	24	9	3
12	3	2.5	3	8	275	169	72	26	42	24	9	3
13	3	2.5	3	16	262	145	72	22	42	18	9	3
14	2	2.5	3	25	189	130	72	18	30	18	6	4.5
15	2	2.5	3	37	131	137	65	18	22	18	4.5	4
16	1.5	2.5	4.5	53	155	211	91	18	20	18	4.5	6
17	1.5	2.5	4.5	62	199	243	81	18	20	18	6	4.5
18	2	2.5	3.5	53	230	270	72	18	20	32	8	4.5
19	2	2.5	3.5	62	250	211	72	18	18	32	8	4.5
20	2	2.5	3.5	62	199	202	56	18	18	30	9	3
21	2	2.5	3.5	70	154	192	64	18	18	18	8	3
22	2	2.5	3	70	162	174	72	18	20	16	6	4.5
23	2	2.5	3	68	250	174	72	23	20	16	3	6
24	2	2.5	3.5	66	305	163	68	37	20	15	6	6
25	2	2.5	3	63	335	163	60	25	18	15	6	9
26	2.5	2.5	2	61	370	157	53	17	20	15	6	9
27	2.5	2.5	2	59	492	157	49	17	20	15	8	9
28	3	2.5	2	57	350	157	42	22	20	15	6	9
29	3		2	55	370	142	42	22	20	14	4.5	10
30	2.5		3	52	335	127	32	38	20	12	6	12
31	2.5		9		319		32	31		12		12
Mean	2.42	2.34	3.24	37.8	203	202	75.7	22.9	32.4	20.2	7.78	6.05
Run-off acre-feet	149	130	199	2250	12500	12000	4650	1410	1930	1240	463	372

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Uncompahgre River at Ouray for 1914.
Drainage Area, 44 Square Miles. Altitude, 7,710 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	12	6	2	12	61	925	345	100	44	31	31	
2	12	4	4	12	44	825	300	100	44	31	31	
3	9	4	4	19	48	505	300	98	44	84	27	
4	6	4	2	31	52	405	267	85	35	84	27	
5	6	4	2	37	70	370	255	85	27	73	27	
6	6	4	1	44	75	247	240	85	27	73	27	
7	8	4	1	34	75	198	240	74	27	63	27	
8	8	4	2	34	110	188	240	64	27	53	21	
9	6	4	2	29	170	198	245	59	27	40	18	
10	4	4	6	30	228	275	232	59	35	40	17	
11	4	3	4	30	270	435	207	59	35	40	16	
12	6	3	2	30	202	560	207	59	35	40	14	
13	6	2	2	30	240	625	185	54	35	40	14	
14	6	2	6	61	255	520	175	54	35	40	12	
15	6	2	9	52	270	500	150	54	35	40	9	
16	6	2	12	66	215	545	150	54	35	40	9	
17	6	2	19	44	215	574	150	45	35	40	12	
18	4	2	19	56	270	602	212	45	35	35	8	
19	4	2	12	34	270	630	182	45	35	27	7	
20	4	1	15	52	335	610	192	45	35	35	7	
21	2	1	12	70	430	640	163	44	40	35	8	
22	2	1	9	61	510	555	145	58	35	35	8	
23	2	2	9	75	552	530	145	58	35	35	9	
24	2	4	9	48	470	530	125	63	33	53	9	
25	2	4	6	56	300	555	103	63	33	44	10	
26	4	4	6	80	370	455	103	63	31	44	10	
27	4	1	9	70	642	435	103	63	31	40	11	
28	3	2	12	48	390	360	103	58	31	35	11	
29	4		12	44	490	315	103	53	31	35	9	
30	6		9	61	732	300	103	44	31	33	8	
31	6		12		875		133	44		33		
Mean	5.35	2.93	7.45	45.0	298	480	187	62.4	33.9	44.2	15.1	
Run-off acre-feet	329	163	458	2680	18300	28600	1500	3840	2020	2720	898	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Uncompahgre River below Ouray for 1913.
Drainage Area, 76 Square Miles. Altitude, 7,710 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1						845	435	92	128	67	42	34
2						810	435	84	98	67	42	17
3						778	408	84	88	69	42	33
4						745	355	79	92	69	42	35
5						745	355	79	210	69	34	30
6						680	355	79	195	67	34	33
7						615	308	81	180	67	33	33
8						555	245	79	195	67	33	33
9						525	245	79	285	67	34	30
10						408	245	79	195	75	33	30
11						380	224	84	155	69	34	30
12					732	495	224	84	137	69	38	30
13					648	380	217	84	122	64	38	30
14					447	308	217	84	104	61	34	31
15					224	408	189	81	75	59	33	33
16					316	585	308	75	71	59	30	35
17					495	648	285	75	71	54	34	33
18					1010	810	245	71	71	54	38	27
19					648	712	285	71	71	54	38	27
20					435	648	275	75	67	50	34	24
21					330	555	275	79	61	42	27	24
22					355	435	265	79	71	42	20	26
23					495	435	285	79	67	48	24	27
24					745	525	210	155	67	48	30	27
25					810	525	195	95	61	50	30	29
26					880	555	168	81	67	48	26	29
27					1020	555	168	81	67	46	30	29
28					810	555	150	81	67	48	27	29
29					845	495	132	81	67	46	28	29
30					810	465	122	150	67	42	80	31
31					810		104	155		43		31
Mean					643	573	256	87.6	109	57.4	33.1	29.6
Run-off acre-feet					25500	34100	15700	5390	6490	3530	1970	1820

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Uncompahgre River below Ouray for 1914.
Drainage Area, 76 Square Miles. Altitude, 7,710 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	31	30	30	34	81	1650	495	215	92	64		
2.....	31	30	34	47	79	1130	525	215	92	64		
3.....	30	27	27	57	69	985	525	215	92	118		
4.....	28	27	20	64	81	845	525	195	92	118		
5.....	27	27	27	67	88	648	555	180	92	100		
6.....	27	26	24	48	100	435	615	180	77	92		
7.....	30	25	20	69	104	408	615	165	77	92		
8.....	33	26	20	64	149	380	585	285	67	84		
9.....	33	26	27	63	215	408	555	180	85	70		
10.....	30	26	34	62	270	555	555	180	85	70		
11.....	27	25	34	63	360	778	555	145	85	70		
12.....	27	25	24	64	288	1020	495	145	75	70		
13.....	29	26	34	65	400	1290	435	125	75	70		
14.....	30	28	42	75	380	1210	435	125	75	70		
15.....	30	29	42	92	400	1250	380	115	75	64		
16.....	30	28	50	116	380	1100	380	105	75	64		
17.....	29	27	59	69	360	1100	330	95	75	62		
18.....	28	24	69	64	380	1100	555	95	75	62		
19.....	28	21	59	67	495	1100	355	95	75	59		
20.....	30	20	59	92	565	1130	380	91	75	68		
21.....	31	20	50	100	745	1130	355	91	76	68		
22.....	30	20	34	104	778	1020	315	120	73	68		
23.....	29	20	42	95	845	985	315	120	73	66		
24.....	29	20	42	81	745	845	260	120	72	81		
25.....	29	20	42	95	620	1020	225	127	72	81		
26.....	27	27	40	112	745	845	225	127	70	81		
27.....	27	20	42	95	865	810	210	127	70	81		
28.....	28	27	42	88	780	680	225	120	70	78		
29.....	29		34	81	1000	680	225	110	70	78		
30.....	27		34	88	1350	615	225	94	70	76		
31.....	27		34		1610		260	94		73		
Mean.....	29.1	24.9	37.8	76.0	494	905	409	142	77.6	76.2		
Run-off acre-feet.....	1790	1380	2320	4520	30400	53900	25100	8730	4620	4680		

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Uncompahgre River at Montrose for 1913.
Drainage Area, 565 Square Miles. Altitude, 5,820 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					31	328	26	74	31	148	29	79
2					45	372	153	68	40	109	45	70
3					27	267	207	91	24	123	37	71
4					187	283	187	64	51	143	51	65
5					51	250	160	45	45	136	64	84
6					24	207	349	31	27	115	79	84
7					27	275	179	40	35	121	105	68
8					57	179	153	37	51	79	136	68
9					51	226	121	31	71	45	201	55
10					115	201	121	79	84	35	216	64
11					130	148	121	51	87	12	195	87
12					40	168	35	105	115	7	232	58
13					105	130	34	45	125	15	250	56
14					84	115	41	57	125	17	226	50
15					148	223	55	37	148	12	286	40
16					136	160	160	33	115	7	71	47
17					160	184	139	24	71	9	115	
18					201	372	405	20	45	9	115	
19					105	298	386	1	37	9	105	
20					306	57	250	226	0	35	17	96
21					267	148	236	115	2	195	13	91
22					195	201	358	216	4	187	20	84
23					35	349	179	226	8	168	17	87
24					24	298	253	173	40	125	8	85
25					27	187	232	226	35	113	15	87
26					10	250	267	250	35	115	15	84
27					7	495	213	201	43	109	19	87
28					40	136	250	160	51	105	21	105
29					31	179	535	27	51	130	14	91
30					160	201	121	24	45	160	13	71
31						267		12	55		17	
Mean					100	145	241	154	42.0	92.3	43.2	65.4
Run-off acre-feet					2180	8920	14300	9470	2580	5490	2660	7020

Unless otherwise noted, all discharges are in cubic feet per second.

UNCOMPAHGRE RIVER NEAR DELTA.

Location.—At highway bridge on township line between Tps. 95 and 96, 2 miles south of Delta; no tributaries between the station and the mouth and no important tributaries for several miles upstream.

Records Available.—April 29, 1903, to December 18, 1913.

Drainage Area.—1,130 square miles.

Gage.—Vertical staff. The gage was originally located at a highway bridge one-fourth mile above the Denver & Rio Grande Railroad bridge. On November 17, 1903, it was moved to the railroad bridge, where it was read until April 21, 1904. An inclined gage was installed near the bridge on April 21, 1904, which was used until November, 1906, when a staff gage was installed at the present site. April 16, 1910, a new gage was installed at a datum slightly different from the preceding. The relation between the gages at the various sites was not determined.

Channel.—Extremely shifting.

Discharge Measurements.—Made from the bridge.

Winter Flow.—The flow is probably not materially affected by ice, although ice forms along the edges and slush ice frequently occurs. Observations are discontinued during the winter months.

Diversions.—The normal flow is diverted during the irrigation season by ditches above the station, so that the records represent largely return seepage water.

Accuracy.—Estimates only fair, or, for certain periods, possibly good, measurements being insufficient to permit use of indirect method for shifting channels to fullest extent.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Reclamation Service, which furnishes the field data. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON THE UNCOMPAHGRE RIVER AT DELTA.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913			
May 24	E. H. Swett.....	1.96	418
May 29	E. H. Swett.....	1.60	273
June 30	E. H. Swett.....	1.10	108
July 24	E. H. Swett.....	1.48	200
Aug. 20	E. H. Swett.....	.65	33
Oct. 21	E. H. Swett.....	1.10	108

CANON CREEK AT OURAY.

Location.—At Ouray, Colo., in sec. 31, T. 44 N., R. 7 W., New Mexico principal meridian, in the Uncompahgre Forest, 200 feet above the mouth of the creek. Nearest tributary, a small stream, enters from the east some distance above.

Records Available.—January 25, 1911, to November 30, 1914.

Drainage Area.—26 square miles.

Gage.—Vertical staff.

Channel.—Shifting.

Discharge Measurements.—Made from near-by foot-bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes practically no backwater at this station.

Diversions.—No water is diverted above the station, so the records represent the natural run-off.

Accuracy.—Owing to the high altitude of the drainage basin, alternate melting and freezing causes diurnal fluctuations of stage at certain seasons. Therefore the mean daily stage as determined from one reading may be considerably in error. For this reason the estimates of discharge, in general, can not be considered better than fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON CANON CREEK AT OURAY.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
May 12	Robert Follansbee.....	1.20	118	Jan. 18	R. H. Fletcher.....	2.44	5.90
July 20	R. H. Fletcher.....	1.00	115	May 26	Robert Follansbee.....	3.75	154.
Aug. 31	R. H. Fletcher.....	*3.15	47	May 31	T. J. Watkins.....	4.12	375.
Sept. 1	R. H. Fletcher.....	†3.02	37	July 2	T. J. Watkins.....	3.32	216.
Oct. 22	Robert Follansbee.....	‡2.65	18	Aug. 20	M. D. Anderson.....	2.30	35.
				Oct. 18	Follansbee & Watkins.	2.10	18.

*New gage. Old gage read 0.55.

†New gage. Old gage read 0.47.

‡New gage. Old gage read 0.20.

Discharge of Uncompahgre River near Delta for 1913.
Drainage Area, 1,130 Square Miles. Altitude, 4,970 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					205	190	68	52	37	306	137	176
2.....					176	205	37	44	60	305	137	190
3.....					205	150	52	44	60	285	150	162
4.....					137	105	44	60	95	305	162	190
5.....					95	105	60	52	105	305	162	190
6.....					115	68	126	44	150	325	137	190
7.....					105	68	68	44	95	285	126	176
8.....					105	115	44	18	162	285	137	205
9.....					95	126	44	30	325	285	137	176
10.....					115	115	60	44	268	220	137	162
11.....					150	162	60	44	150	190	137	162
12.....					162	137	52	44	115	137	162	162
13.....					150	126	44	52	176	115	150	176
14.....					115	105	44	52	190	137	150	176
15.....				220	68	150	52	44	220	137	137	176
16.....				420	68	150	77	44	205	137	137	176
17.....				620	60	95	86	44	150	137	137	190
18.....				395	105	176	115	44	137	137	162	220
19.....				590	105	205	126	44	137	115	162	
20.....				502	95	190	448	37	126	115	162	
21.....				560	77	162	235	52	95	115	162	
22.....				370	60	190	176	60	162	115	162	
23.....				305	105	205	250	44	620	105	162	
24.....				115	268	162	220	60	325	115	162	
25.....				77	126	137	137	44	285	126	162	
26.....				77	105	126	105	52	305	115	162	
27.....				86	190	162	95	44	325	115	162	
28.....				150	150	126	115	68	325	137	190	
29.....				176	150	205	86	60	370	137	220	
30.....				220	162	126	60	44	325	137	205	
31.....					105		60	30		162		
Mean.....				305	127	145	105	46.4	203	182	156	181
Run-off acre-feet.....				9680	7810	8630	6460	2850	12100	11200	9280	6460

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Canon Creek at Ouray for 1913.
Drainage Area, 26 Square Miles. Altitude, 7,710 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	5	6	6	17	32	289	175	38	56	22	13	12
2.....	5	6	6	17	32	298	175	35	45	22	13	6
3.....	5	6	6	13	32	298	175	35	40	22	13	8
4.....	5	6	6	10	59	289	150	35	43	22	13	10
5.....	5	6	6	10	59	289	134	32	60	22	13	8
6.....	4	6	6	12	59	262	134	32	63	22	13	10
7.....	4	6	6	12	83	244	110	32	63	22	14	10
8.....	4	6	6	12	83	244	110	32	63	22	14	10
9.....	4	6	7	13	83	226	97	32	115	22	14	10
10.....	5	6	7	13	83	209	86	32	58	27	10	10
11.....	5	7	8	12	83	158	86	32	58	19	10	10
12.....	5	7	8	12	192	158	86	32	51	19	12	10
13.....	5	7	7	13	184	118	102	32	43	19	12	8
14.....	5	7	7	24	143	118	102	32	43	19	10	10
15.....	4	7	6	24	104	244	86	32	30	19	10	10
16.....	4	7	6	26	115	244	110	26	30	19	10	10
17.....	4	7	6	40	167	262	110	25	27	19	10	10
18.....	5	7	7	32	184	289	110	21	27	19	10	10
19.....	5	7	7	32	200	280	110	21	22	19	12	10
20.....	5	7	7	32	151	244	110	26	22	19	12	6
21.....	5	7	7	40	112	218	114	26	22	19	10	6
22.....	5	7	6	40	112	200	118	26	24	16	10	6
23.....	5	7	6	40	175	200	134	26	22	16	14	6
24.....	5	7	6	39	218	206	102	52	22	15	12	6
25.....	5	7	6	38	235	209	86	46	22	18	10	6
26.....	5	7	5	37	253	209	72	35	22	19	8	6
27.....	6	7	5	36	346	218	62	35	22	15	12	6
28.....	6	7	7	35	280	218	52	32	22	19	10	6
29.....	6		7	34	308	200	52	32	22	14	8	6
30.....	6		8	33	289	192	40	65	22	14	10	6
31.....	6		12		289		38	102		13		6
Mean.....	4.9	6.6	6.6	24.9	153	228	104	35.2	39.4	19.1	11.4	8.2
Run-off acre-feet.....	301	366	406	1480	9410	13600	6400	2160	2340	1170	678	504

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Canon Creek at Ouray for 1914.
Drainage Area, 26 Square Miles. Altitude, 7,710 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	6	6	8	14	22	490	255	73	58	12	11	
2	6	6	10	13	22	478	226	73	58	12	11	
3	6	6	6	14	21	435	222	73	45	45	10	
4	6	6	6	15	22	317	222	58	45	45	10	
5	6	6	6	16	24	278	233	58	35	45	10	
6	6	6	6	22	24	148	233	58	26	30	10	
7	6	6	3	18	25	122	233	45	26	26	10	
8	6	6	6	16	41	113	233	73	26	26	6	
9	6	6	10	14	56	106	233	45	26	18	6	
10	6	6	10	15	86	169	211	45	26	18	6	
11	6	6	10	16	96	248	211	45	26	18	5	
12	6	6	8	18	70	331	194	45	18	18	5	
13	6	6	10	19	96	459	190	35	18	18	5	
14	6	6	14	24	78	418	190	35	18	18	5	
15	6	6	14	29	101	459	169	35	18	17	4	
16	6	6	14	34	78	435	169	35	18	17	4	
17	6	6	19	25	78	426	148	35	18	17	6	
18	6	6	19	23	86	416	255	35	18	17	5	
19	8	6	19	19	86	406	211	35	18	17	5	
20	8	6	19	25	125	363	211	35	18	18	5	
21	9	6	14	30	166	377	169	35	22	18	5	
22	6	6	14	17	198	365	148	82	18	18	6	
23	6	6	14	24	241	370	128	82	18	18	6	
24	6	6	14	24	208	370	109	90	18	35	6	
25	6	6	14	25	170	375	90	90	15	30	5	
26	6	6	13	30	208	331	82	90	15	26	5	
27	6	3	14	26	252	317	82	90	12	26	5	
28	6	6	14	23	200	278	73	82	12	26	5	
29	6		14	23	230	271	73	73	12	17	5	
30	6		14	24	412	248	73	58	12	17	4	
31	6		14		475		82	58		15		
Mean	6.22	5.89	11.9	21.5	129	331	173	58.1	23.8	22.5	6.37	
Run-off acre-feet	382	327	732	1280	7930	19700	10600	3570	1420	1380	379	

Unless otherwise noted, all discharges are in cubic feet per second.

LARAMIE RIVER DRAINAGE

LARAMIE RIVER NEAR WEST PORTAL LARAMIE-POUDRE TUNNEL.

Location.—At highway bridge, about one-half mile below the west portal of the Laramie-Poudre tunnel. The river divides into the east and west branches about one mile above.

Records Available.—May 10, 1913, to September 27, 1913, and several miscellaneous measurements.

Gage.—Reference point on bridge.

Discharge Measurements.—From highway bridge and by wading.

Diversions.—There is a decree for 400 second-feet from the West Branch Laramie River by the Skyline Canal which takes the water across the divide to the Cache la Poudre river.

Accuracy.—Results considered good, but 30 per cent below the normal flow of the stream.

DISCHARGE MEASUREMENTS LARAMIE RIVER NEAR WEST PORTAL LARAMIE-POUDRE TUNNEL.

Date 1913	Hydrographer	Ref. Point to Water Surface	Discharge Sec. Ft.
May 10	Thos. Grieve, Jr.....	4.72	48
June 13	Thos. Grieve, Jr.....	5.0	24
July 11	Thos. Grieve, Jr.....	5.20	14
Sept. 27	M. E. Bunger.....		9.6

LARAMIE RIVER AT GLENDEVEY.

Location.—At highway bridge one-eighth mile west of Glendevy in sec. 36, T. 10 N., R. 76 W., in the Medicine Bow National Forest; McIntyre Creek enters a short distance below and Nunn Creek above.

Records Available.—June 24, 1904, to October 31, 1905; August 18, 1910, to August 9, 1914.

Drainage Area.—102 square miles.

Gage.—Automatic gage installed by the State engineer November 17, 1910, replaced vertical staff previously used. The datum of the gages has remained constant.

Channel.—Permanent.

Discharge Measurements.—Made from bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—There are court decrees for diversions of 65 second-feet from Laramie River above the station and for 749 second-feet from tributaries entering above. Of this latter amount 688 second-feet are for diversion into the Cache la Poudre basin.

Accuracy.—Conditions are favorable for excellent results; and the estimates should be reliable.

Co-operation.—Since its re-establishment the station has been maintained in co-operation with the United States Forest Service.

DISCHARGE MEASUREMENTS ON LARAMIE RIVER AT GLENDEVEY.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
Apr. 26	Thos. Grieve, Jr.....	2.10	48	May 17	Bundy and Woodhall.	2.93	264
May 9	Thos. Grieve, Jr.....	2.68	202	May 24	D. L. Bundy.....	4.00	686
May 26	Thos. Grieve, Jr.....	3.02	297	May 28	D. L. Bundy.....	4.45	999
June 7	Thos. Grieve, Jr.....	2.80	219	June 2	D. L. Bundy.....	4.95	1316
June 20	Thos. Grieve, Jr.....	2.65	175	July 30	M. N. Grant, Jr.....	2.28	73
July 23	R. I. Meeker.....	2.36	84				
July 29	Thos. Grieve, Jr.....	2.20	53				
Aug. 2	Thos. Grieve, Jr.....	2.10	44				
Aug. 11	M. E. Bunker.....	2.05	29				
Aug. 17	R. I. Meeker.....	2.00	30				
Sept. 10	M. E. Bunker.....	2.00	33				
Sept. 27	M. E. Bunker.....	2.10	38				
Oct. 12	R. I. Meeker.....	2.10	41				

LARAMIE RIVER NEAR JELM, WYO.

Location.—At highway bridge in sec. 15, T. 12 N., R. 77 W., 4 miles south of Jelm postoffice, one-fourth mile below the Colorado-Wyoming line.

Records Available.—May 7 to October 31, 1914. From June 22, 1904, to October 31, 1905, a station was maintained at Decker's ranch, half a mile south of the State line. The records at the two stations are practically comparable as there are no tributaries nor diversions of any amount between.

Drainage Area.

Gage.—In 1911 an automatic recording gage was installed. This is referred to the same datum as the vertical staff used at first.

Channel.—Practically permanent.

Discharge Measurements.—Made from bridge.

Winter Flow.—Ice causes backwater during the winter months and the records are discontinued.

Diversions.—Between this station and that at Glendevy, Colo., there are four decrees for diversions of 236 second-feet from Laramie River and 204 second-feet from intervening tributaries. These diversions are all in Colorado.

Accuracy.—Conditions are favorable for accurate results, and the estimates should be excellent.

DISCHARGE MEASUREMENTS ON LARAMIE RIVER AT BOSWELL'S RANCH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 24	R. I. Meeker.....	1.30	114	May 16	Bundy and Woodhall.	2.30	516
Apr. 24	Thos. Grieve, Jr.....	1.45	140	May 23	Bundy and Woodhall.	3.45	1486
Apr. 25	Thos. Grieve, Jr.....	1.34	128	May 28	D. L. Bundy.....	3.60	2482
Apr. 27	Thos. Grieve, Jr.....	1.40	136	June 2	D. L. Bundy.....	3.80	2872
Apr. 29	Thos. Grieve, Jr.....	1.70	252	June 9	D. L. Bundy.....	3.10	1169
May 8	Thos. Grieve, Jr.....	2.20	467	July 31	M. N. Grant, Jr.....	1.55	165
May 14	R. I. Meeker.....	2.35	514				
May 22	C. E. Turner.....	2.06	371				
May 24	Thos. Grieve, Jr.....	2.45	599				
May 28	Thos. Grieve, Jr.....	2.72	777				
May 30	R. I. Meeker.....	2.82	850				
June 15	Thos. Grieve, Jr.....	2.06	380				
June 21	C. E. Turner.....	1.97	334				
July 22	R. I. Meeker.....	1.36	113				
Aug. 9	M. E. Bunger.....	1.15	63				
Aug. 17	R. I. Meeker.....	1.02	44				
Sept. 2	Robert Follansbee....	0.99	41				
Sept. 2	M. E. Bunger.....	1.00	39				
Sept. 30	M. E. Bunger.....	1.22	76				
Oct. 3	M. E. Bunger.....	1.22	78				
Oct. 12	R. I. Meeker.....	1.20	78				
Nov. 25	R. I. Meeker.....	1.06	66				

**Discharge of Laramie River at One-Half Mile below Laramie-
Poudre Tunnel for 1913.**

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						50						
2.....												
3.....												
4.....												
5.....												
6.....												
7.....												
8.....						34						
9.....												
10.....					50							
11.....							14					
12.....												
13.....						24						
14.....												
15.....												
16.....												
17.....							21					
18.....					40							
19.....												
20.....						31						
21.....												
22.....												
23.....												
24.....							21					
25.....												
26.....												
27.....					31				9.6			
28.....						18						
29.....							10					
30.....												
31.....												
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Laramie River at Glendevy for 1913.
Drainage Area, 102 Square Miles.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					142	342	85	40	25	36		
2.....					112	290	72	40	22	36		
3.....					98	290	72	36	25	36		
4.....					85	272	72	40	22	54		
5.....					98	255	72	40	25	54		
6.....					127	272	63	36	28	40		
7.....					189	238	54	36	31	36		
8.....					142	206	63	36	31	36		
9.....					173	222	63	36	31	31		
10.....					222	238	72	31	31	31		
11.....					238	255	72	31	28	31		
12.....					255	206	63	31	28	31		
13.....					238	189	54	31	28	31		
14.....					173	174	47	31	25	36		
15.....					173	174	47	31	25	31		
16.....					158	174	47	31	25	31		
17.....					173	174	54	31	25	31		
18.....					189	174	72	28	25	25		
19.....					189	206	72	28	25	25		
20.....					158	189	54	28	22			
21.....				72	142	174	47	25	25			
22.....				85	127	174	47	28	25			
23.....				54	158	142	72	28	31			
24.....				47	189	127	127	31	31			
25.....				47	222	174	85	28	31			
26.....				40	255	158	72	28	31			
27.....				63	325	127	63	28	36			
28.....				112	325	127	54	28	31			
29.....				142	325	127	47	31	31			
30.....				142	342	98	47	31	36			
31.....					360		40	31				
Mean.....				80.4	197	199	63.6	31.9	27.8	34.8		
Run-off acre-feet.....				1600	12100	11800	3910	1960	1650	1310		

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Laramie River at Glendevy for 1914.
Drainage Area, 102 Square Miles.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			15	12	91	1380	272					
2			15	10	91	1300						
3			12	12	91	1060		80				
4			15	18	102	1060						
5			12	22	114	1140						
6			15	22	91	860	180	80				
7			15	22	102	712						
8			15	15	126	584						
9			15	15	180	456	180	80				
10			15	15	208	496						
11				15	223	609						
12					194	584						
13					180	684						
14					180	634	126					
15					208	659						
16					223	609						
17					225	634						
18					289	496						
19					342	540	152					
20					395	634						
21					518	659						
22					609	659						
23					634	456	80					
24					740	378						
25			15		770	360						
26			10	102	770	324						
27			12	91	800	306						
28			15	80	925	342						
29			12	80	860	306	80					
30			12	91	892	272	80					
31			12		990							
Mean			13.6		393	640	144					
Run-off acre-feet			*836	1230	24200	38100	*8850					

Unless otherwise noted, all discharges are in cubic feet per second. *Figured for full month.

Discharge of Laramie River at Boswell's Ranch near Jelm, Wyo., for 1913.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					356	836	194	102	42	67	57	
2.....					334	734	168	90	35	67	57	
3.....					269	668	161	77	28	67	57	
4.....					250	668	161	77	28	102	57	
5.....					269	606	146	77	42	130	57	
6.....					334	606	130	67	50	102	57	
7.....					434	606	116	67	57	77	57	
8.....					434	516	116	67	50	77	67	
9.....					406	516	116	57	57	77	57	
10.....					516	546	130	67	57	77	57	
11.....					546	576	146	57	42	67	57	
12.....					576	488	116	57	42	77	50	
13.....					606	434	102	57	42	77	57	
14.....					516	381	102	57	42	77	57	
15.....					434	356	116	57	50	67	50	
16.....					434	356	102	57	42	67	42	
17.....					434	356	116	42	42	77	57	
18.....					488	356	161	42	42	67	50	
19.....					516	406	178	42	42	57	57	
20.....					461	356	130	42	42	67	50	
21.....				212	406	356	130	42	42	57	50	
22.....				194	406	334	102	42	67	50	50	
23.....				130	488	290	161	42	77	57	57	
24.....				116	576	250	230	42	67	67	67	
25.....				130	636	311	178	42	77	57	57	
26.....				130	701	311	130	42	77	57	57	
27.....				130	801	269	130	35	77	77	57	
28.....				161	801	250	116	42	67	57	67	
29.....				230	801	269	102	42	67	57	57	
30.....				334	871	212	90	42	67	67	50	
31.....					906		102	42		67		
Mean				177	516	441	135	55	52	71	56	
Run-off acre-feet.....				3500	31700	26300	8300	3380	3090	4370	3330	

Unless otherwise noted, all discharges are in cubic feet per second.

**Discharge of Laramie River at Boswell's Ranch near Jelm, Wyo.,
for 1914.**

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					155	2410	472	155	80	60		
2.....					185	2980	445	170	60	60		
3.....					185	2690	365	170	60	60		
4.....					220	2410	340	155	40	60		
5.....					208	2280	445	130	70	60		
6.....					255	2150	295	105	40	60		
7.....					220	1660	295	105	50	60		
8.....					255	1340	295	105	40	60		
9.....					205	1180	275	105	30	60		
10.....					390	1150	220	105	30	60		
11.....					472	1340	302	105	30	60		
12.....				80	472	1340	230	105	30	60		
13.....				92	418	1440	302	105	28	70		
14.....				105	530	1660	185	105	25	60		
15.....				105	500	1440	185	105	25	80		
16.....				105	500	1150	185	105	25	80		
17.....				118	630	1070	170	105	25	80		
18.....				105	780	1070	238	105	25	80		
19.....				130	905	1070	230	130	25	80		
20.....				142	1340	1230	185	105	25	80		
21.....				155	1500	960	185	105	30	80		
22.....				202	1560	1010	202	105	25	80		
23.....				155	1620	860	185	80	25	80		
24.....				185	2100	780	170	80	25	80		
25.....				155	1890	700	155	80	25	80		
26.....				155	1540	065	155	105	25	80		
27.....				185	1780	560	155	105	40	80		
28.....				170	2280	530	130	80	40	80		
29.....				155	2150	472	130	80	60	80		
30.....				155	2150	500	202	60	60	80		
31.....					2150		185	80		80		
Mean.....				126	957	1340	234	108	37.3	71.6		
Run-off acre-feet.....				5140	53800	70700	14400	6040	2220	4400		

Unless otherwise noted, all discharges are in cubic feet per second.

RAWAH CREEK NEAR MOUTH.

Location.—About one-half mile above mouth.

Records Available.—May 10, 1913, to September 27, 1913, and miscellaneous measurements.

Gage.—Vertical staff.

Discharge Measurements.—By wading.

Diversions.—There are no decrees for diversions on this stream. There is a proposed diversion by the Greeley-Poudre Irrigation District through the Laramie-Poudre tunnel.

Accuracy.—Results considered good, but 30 per cent below normal flow of stream.

MEASUREMENTS ON RAWAH CREEK NEAR MOUTH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 10	Thos. Grieve, Jr.	0.40	17.3
May 27	Thos. Grieve, Jr.	0.90	56.
June 8	Thos. Grieve, Jr.	0.80	46.
Aug. 11	M. E. Bungler	0.40	10.
Sept. 20	M. E. Bungler	0.25	8.9
Sept. 27	M. E. Bungler	0.35	9.1

NUNN CREEK NEAR MOUTH.

Location.—About one-quarter of a mile above mouth near Glendevey postoffice.

Records Available.—April 8, 1913, to July 30, 1913, and miscellaneous measurements.

Gage.—Vertical staff.

Channel.—Permanent but rough.

Discharge Measurements.—By wading.

Diversions.—There are several decrees for diversions on this stream, one of which diverts water from Deadman Creek, which enters just above the station, across the divide to the North Fork Cache la Poudre River. The Greeley-Poudre Irrigation District also proposes to divert water from this stream to carry through the Laramie-Poudre tunnel.

Accuracy.—Owing to the rough channel results can only be considered fair. The flow for this year in this drainage basin is also about 30 per cent below normal.

DISCHARGE MEASUREMENTS ON NUNN CREEK NEAR MOUTH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 26	Thos. Grieve, Jr.....	0.00	11
May 9	Thos. Grieve, Jr.....	0.98	83
June 7	Thos. Grieve, Jr.....	0.63	49
June 19	Thos. Grieve, Jr.....	0.30	27
June 28	Thos. Grieve, Jr.....	-0.05	11
July 11	Thos. Grieve, Jr.....	-0.20	2.6
Aug. 11	M. E. Bungar	-0.20	6.2
Sept. 10	M. E. Bungar	-0.20	6.8
Oct. 13	M. E. Bungar	-0.05	10

STUB CREEK AT MOUTH NEAR GLENDEVEY.

Location.—Above State road from Glendevy to Walden one-half mile from Glendevy postoffice.

Records Available.—May 9, 1913, to September 10, 1913, and several measurements in 1912.

Gage.—Vertical staff.

Channel.—Shifts slightly.

Discharge Measurements.—By wading.

Diversions.—No water is diverted above this station. There is a decree for 7.94 second-feet below the station.

Accuracy.—Results good but 30 per cent below normal flow of stream.

DISCHARGE MEASUREMENTS ON STUB CREEK AT MOUTH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 9	Thos. Grieve, Jr....	1.20	15
May 27	Thos. Grieve, Jr.....	1.38	20
June 28	Thos. Grieve, Jr.....	0.95	4.1
July 11	Thos. Grieve, Jr..	0.75	2.6

Discharge of Rawah Creek near Mouth for 1913.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						61	46	9.0				
2.....												
3.....												
4.....												
5.....												
6.....												
7.....												
8.....						46						
9.....												
10.....					17							
11.....							34	10				
12.....												
13.....						42						
14.....												
15.....												
16.....												
17.....							38					
18.....					17							
19.....												
20.....						51		8.9				
21.....												
22.....												
23.....												
24.....							42					
25.....												
26.....												
27.....					56			9.1				
28.....						46						
29.....							26					
30.....												
31.....												
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Nunn Creek near Mouth for 1913.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						73						
2.....								6				
3.....												
4.....												
5.....						80						
6.....						55	14					
7.....						51						
8.....						47						
9.....					84	44						
10.....							4		6.3			
11.....							2	6.2				
12.....						36						
13.....						33				10		
14.....						33	11					
15.....												
16.....							2					
17.....												
18.....					55							
19.....						27	2					
20.....						21	6					
21.....												
22.....												
23.....												
24.....												
25.....					78		11					
26.....					90	14						
27.....					73	9						
28.....					73	9						
29.....							6					
30.....							6					
31.....					78							
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Stub Creek at Mouth near Glendevey for 1913.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						18		0.3				
2.....												
3.....												
4.....							7.4					
5.....						16						
6.....						16	7.4					
7.....						14						
8.....						14						
9.....					14			0.3				
10.....							8.7		0.5			
11.....							3.4	0.3				
12.....						13						
13.....						13						
14.....						10						
15.....												
16.....							1.4					
17.....							0.7					
18.....					14							
19.....						10						
20.....						10	0.5					
21.....												
22.....												
23.....					16							
24.....							6.0					
25.....							0.7					
26.....						8.7						
27.....					20	7.4						
28.....							0.5					
29.....												
30.....												
31.....					18							
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

M'INTYRE CREEK NEAR GLENDEVEY.

Location.—At Talmadge's Ranch, about four miles from Glendevy postoffice and one-quarter mile below state road to Walden.

Records Available.—June 1 to September 30, 1913, and miscellaneous measurements.

Drainage Area.—19 square miles.

Gage.—Vertical staff.

Channel.—Apparently permanent.

Discharge Measurements.—Made from foot bridge.

Diversions.—One small ditch diverts water and there are contemplated diversions by the Greeley-Poudre Irrigation District and the Laramie Water Co. above the station.

Accuracy.—Results are good, but the year 1913 was extremely low in this drainage basin, being about 70 per cent of normal.

DISCHARGE MEASUREMENTS ON M'INTYRE CREEK NEAR GLENDEVEY.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
June 7	Thos. Grieve, Jr.....	1.40	105
June 13	Thos. Grieve, Jr.....	1.21	74
June 27	Thos. Grieve, Jr.....	1.00	54
July 16	Thos. Grieve, Jr.....	0.65	25
Aug. 1	Thos. Grieve, Jr.....	0.50	17
Aug. 11	M. E. Bunger	0.40	11
Sept. 3	M. E. Bunger	0.30	9.6
Sept. 10	M. E. Bunger	0.35	8.8
Sept. 27	M. E. Bunger	0.40	12

M'INTYRE CREEK NEAR GLENEYRE.

Location.—At highway bridge near Gleneyre and one-half mile above mouth.

Records Available.—June 24, 1904, to September 30, 1904; April 1, 1905, to August 31, 1905; May 1, 1913, to July 29, 1913, and miscellaneous measurements.

Gage.—Vertical staff.

Discharge Measurements.—From foot bridge and by wading.

Diversions.—There are decrees for 28.28 second-feet from this stream and tributaries above the station.

Accuracy.—Results considered good, but owing to the extremely low run-off during 1913 can only be considered about 70 per cent of normal flow.

DISCHARGE MEASUREMENTS ON M'INTYRE CREEK NEAR GLENEYRE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 9	Thos. Grieve, Jr.....	0.40	88.
May 19	Thos. Grieve, Jr.....	0.73	126.
May 26	Thos. Grieve, Jr.....	1.15	182.
June 9	Thos. Grieve, Jr.....	0.74	123.
June 27	Thos. Grieve, Jr.....	0.20	56.
July 10	Thos. Grieve, Jr.....	0.06	36.
July 20	Thos. Grieve, Jr.....	-0.30	17.

LA GARDE CREEK NEAR MOUTH.

Location.—At Tatham's Ranch about one-quarter mile above mouth.

Records Available.—May 9, 1913, to October 14, 1913, and miscellaneous measurements.

Drainage Area.—Not measured.

Gage.—Vertical staff.

Channel.—Permanent.

Discharge Measurements.—By wading.

Diversions.—Two ditches divert water for irrigation of hay land above station.

Accuracy.—Results are good but are about 30 per cent below normal flow.

DISCHARGE MEASUREMENTS ON LA GARDE CREEK NEAR MOUTH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 9	Thos. Grieve, Jr.....	1.35	73
May 25	Thos. Grieve, Jr.....	1.62	111
June 14	Thos. Grieve, Jr.....	1.10	46
June 21	Thos. Grieve, Jr.....	0.81	23
June 27	Thos. Grieve, Jr.....	0.70	15
July 10	Thos. Grieve, Jr.....	0.40	3.3
Aug. 11	M. E. Bunger.....	0.40	3.7
Sept. 3	M. E. Bunger.....	0.36	2.9
Oct. 14	M. E. Bunger.....	0.55	8.5

**Discharge of McIntyre near Glendevey, Five Miles Above Mouth
for 1913.**

Drainage Area, 19 Square Miles.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.						156	43	17	9			
2.						156	43	17	9			
3.						156	39	17	15			
4.						156	35	17	13			
5.						134	32	17	9			
6.						134	28	17	11			
7.						123	35	17	9			
8.						123	32	17	9			
9.						123	28	15	9			
10.						123	28	13	9			
11.						123	35	13	9			
12.						95	28	13	9			
13.						80	25	13	9			
14.						80	22	13	9			
15.						95	22	13	11			
16.						87	22	13	15			
17.						95	35	9	11			
18.						95	32	9	9			
19.						87	28	9	9			
20.						80	22	9	9			
21.						74	22	9	9			
22.						74	22	9	11			
23.						63	25	9	11			
24.						63	48	9	9			
25.						80	25	9	9			
26.						63	22	9	9			
27.						58	20	9	9			
28.						58	17	13	9			
29.						63	17	13	9			
30.						48	17	13	9			
31.							17	13				
Mean						98	28	12.7	9.9			
Run-off acre-feet						5831	1722	781	589			

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of McIntyre Creek at Gleneyre near Mouth for 1913.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					81	190	56					
2.....												
3.....												
4.....												
5.....												
6.....												
7.....												
8.....												
9.....					81	128						
10.....							39					
11.....												
12.....						107						
13.....												
14.....						88						
15.....												
16.....												
17.....							21					
18.....												
19.....					128	94						
20.....						81						
21.....												
22.....												
23.....												
24.....												
25.....					220		27					
26.....					183							
27.....						56						
28.....							24					
29.....							16					
30.....												
31.....					190							
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of La Garde Creek at Mouth for 1913.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....												
2.....						117		3.5				
3.....												
4.....												
5.....									2.5			
6.....												
7.....						80		5.0				
8.....												
9.....					74							
10.....						62	3.5					
11.....								3.5				
12.....						74	2.5		2.5			
13.....												
14.....						46				8.5		
15.....						67	2.5					
16.....							3.5	3.5				
17.....												
18.....							3.5					
19.....					94	29						
20.....							10.5					
21.....						22						
22.....												
23.....												
24.....												
25.....					109	42	10.5	3.5				
26.....												
27.....						15						
28.....							8.5					
29.....												
30.....						15	6.5					
31.....					142	8.5	5.0					
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

GRACE CREEK NEAR MOUTH.

Location.—Just above Grace Creek Ranch about one-quarter mile above the mouth.

Records Available.—May 11, 1913, to October 2, 1913, and several miscellaneous measurements.

Gage.—Vertical staff.

Discharge Measurements.—By wading.

Diversions.—There is a decree for 19.44 second-feet above this station.

Accuracy.—Results goods. Flow of stream during 1913 about 70 per cent of normal.

DISCHARGE MEASUREMENTS ON GRACE CREEK NEAR MOUTH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 11	Thos. Grieve, Jr.....	1.55	28
May 25	Thos. Grieve, Jr.....	1.75	43
May 31	Thos. Grieve, Jr.....	2.02	70
June 21	Thos. Grieve, Jr.....	1.32	18
June 29	Thos. Grieve, Jr.....	1.20	11
July 12	Thos. Grieve, Jr.....	0.95	3.1
Sept. 12	M. E. Bunger.....	0.90	2.6

STUCK CREEK NEAR MOUTH.

Location.—Near Colorado-Wyoming line and about one-quarter mile above mouth.

Records Available.—May 8, 1913, to September 9, 1913, and miscellaneous measurements.

Drainage Area.—Not measured.

Gage.—Vertical staff.

Channel.—Apparently permanent.

Discharge Measurements.—By wading.

Diversions.—One ditch diverting water above the station not used in 1913.

Accuracy.—Results are good but are about 70 per cent of normal.

DISCHARGE MEASUREMENTS ON STUCK CREEK NEAR MOUTH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 8	Thos. Grieve, Jr.....	0.80	24
May 25	Thos. Grieve, Jr.....	0.90	39
June 5	Thos. Grieve, Jr.....	0.85	27
June 22	Thos. Grieve, Jr.....	0.63	10
July 10	Thos. Grieve, Jr.....	0.45	3.1

JOHNSON CREEK NEAR MOUTH.

Location.—Near road from Laramie to Walden.

Records Available.—April 28, 1913, to July 30, 1913, and miscellaneous measurements.

Gage.—Vertical staff.

Channel.—Permanent.

Discharge Measurements.—By wading.

Diversions.—Two small ditches divert water above this station.

Accuracy.—Results are good but 30 per cent below the normal flow during this year.

DISCHARGE MEASUREMENTS ON JOHNSON CREEK NEAR MOUTH.

Date 1913	Hydrographer	Gage Ht.	Discharge
		Feet	Sec. Ft.
Apr. 28	Thos. Grieve, Jr.....	0.68	22
May 16	Thos. Grieve, Jr.....	0.82	31
June 16	Thos. Grieve, Jr.....	0.42	9.7
July 19	Thos. Grieve, Jr.....	0.21	3.3
Oct. 4	M. E. Banger.....		4

Discharge of Grace Creek at Mouth for 1913.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....												
2.....								4.5		4.6		
3.....												
4.....							7.5					
5.....						48		4.5				
6.....												
7.....								4.5				
8.....							4.5					
9.....												
10.....						40	4.5					
11.....					28							
12.....						32	3.5		3.5			
13.....												
14.....						25						
15.....												
16.....							7.5	4.5				
17.....					25							
18.....							9.0					
19.....						22						
20.....						20						
21.....						14						
22.....												
23.....												
24.....												
25.....					44		7.5	3.5				
26.....												
27.....						12						
28.....							7.5					
29.....					58	10						
30.....					74		6.0					
31.....					68		4.5					
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in acre-feet per second.

Discharge of Stuck Creek at Mouth for 1913.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....												
2.....								0.5				
3.....												
4.....												
5.....						30						
6.....												
7.....								0.5				
8.....					22		3.2					
9.....									0.3			
10.....						22	3.2					
11.....												
12.....						22	2.0					
13.....					52							
14.....						14						
15.....								0.5				
16.....						14	2.0					
17.....					30							
18.....												
19.....						14	4.5					
20.....						11						
21.....							2.0					
22.....						11						
23.....					78							
24.....								0.5				
25.....					37		2.0					
26.....												
27.....						8						
28.....					37							
29.....												
30.....						6	1.0					
31.....							1.0					
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Johnson Creek near Mouth for 1913.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....												
2.....												
3.....												
4.....												
5.....												
6.....						20						
7.....												
8.....					19							
9.....							1.6					
10.....						15						
11.....												
12.....							1.0					
13.....												
14.....												
15.....												
16.....					30	9						
17.....												
18.....												
19.....							3.1					
20.....					33							
21.....												
22.....						6						
23.....												
24.....					33							
25.....												
26.....						6	2.4					
27.....												
28.....				23								
29.....				20								
30.....					37	6	1.3					
31.....												
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

RIO GRANDE DRAINAGE

RIO GRANDE AT THIRTYMILE BRIDGE, NEAR CREEDE, COLO.

Location.—In the Rio Grande National Forest, about 30 miles southwest of Creede, in sec. 13, T. 40 N., R. 4 W.; a short distance above mouth of Squaw Creek.

Records Available.—June 18, 1909, to November 30, 1914.

Drainage Area.—163 square miles (measured from topographic sheets).

Gage.—Chain gage, 200 feet upstream from Thirtymile Bridge; washed out October 5, 1911. The flood of this date changed the mouth of Squaw Creek, making it enter above the gaging station. For that reason, when the records were resumed April 8, 1912, a vertical staff gage was established a quarter of a mile above the old location and above the new mouth of Squaw Creek. The relation between the gages was not determined.

Channel.—Apparently permanent.

Discharge Measurements.—Made from car and cable except during low stages, when they are made by wading.

Winter Flow.—Ice causes backwater during the winter months and records are discontinued.

Diversions.—So far as known, no water is diverted above the station.

Artificial Control.—A short distance above the station the San Luis Valley irrigation district has constructed the large Rio Grande reservoir which materially modifies the flow of the river; also Lost Lake Reservoir.

Accuracy.—Owing to the high altitude at this point it is possible that at certain seasons of the year the alternate melting and freezing may cause considerable diurnal fluctuations. For this reason the mean daily gage height taken from morning and evening readings may not represent accurately the true mean for the day. With this exception, conditions are favorable for accurate results, and altogether the records are considered good.

Co-operation.—Prior to 1914 this station was maintained by co-operative action between the United States Geological Survey and J. C. Ulrich, engineer for the San Luis Valley Irrigation District. During 1914 gage heights were furnished by the San Luis Valley Irrigation District and discharge measurements made by the State Engineer's office.

DISCHARGE MEASUREMENTS RIO GRANDE AT THIRTYMILE BRIDGE BELOW
RIO GRANDE RESERVOIR.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
Feb. 29	C. H. Sievers.....	2.75	3.7	May 26	Field & Evans.....	5.65	980
Apr. 15	C. H. Sievers.....	2.86	7.2	June 7	D. W. Evans.....	6.60	2037
Apr. 19	C. H. Sievers.....	2.96	10.4	July 7	D. W. Evans.....	5.73	925
Apr. 20	C. H. Sievers.....	3.20	28.	July 10	D. W. Evans.....	5.63	830
Apr. 20	C. H. Sievers.....	3.25	42	July 11	Crisman & Meeker....	5.63	825

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
April 21	C. H. Sievers.....	3.80	96	Aug. 8	Crisman & Evans....	5.12	551
May 30	C. H. Sievers.....	6.00	1200	Aug. 8	Crisman & Evans....	4.68	325
June 2	C. H. Sievers.....	4.29	262	Aug. 10	Crisman & Evans....	4.40	213
June 2	C. H. Sievers.....	4.65	420	Aug. 10	Crisman & Evans....	3.80	82
June 2	C. H. Sievers.....	4.49	349	Aug. 11	Crisman & Evans....	3.12	43
June 2	C. H. Sievers.....	4.80	489				
June 2	C. H. Sievers.....	4.90	539				
June 3	C. H. Sievers.....	5.07	654				
June 3	C. H. Sievers.....	5.32	828				
June 3	C. H. Sievers.....	5.21	751				
June 18	C. H. Sievers.....	4.41	309				
June 18	C. H. Sievers.....	4.91	541				
June 18	C. H. Sievers.....	4.82	511				
June 18	C. H. Sievers.....	4.71	443				
July 14	C. H. Sievers.....	4.85	534				
July 17	C. H. Sievers.....	4.92	586				
July 18	C. H. Sievers.....	5.13	712				
July 19	C. H. Sievers.....	5.20	759				
Aug. 3	Follansbee & Sievers..	4.71	432				
Aug. 4	C. H. Sievers.....	4.85	517				
Aug. 4	C. H. Sievers.....	4.71	434				

Discharge of Rio Grande at Thirtymile Bridge for 1913.
Drainage Area, 163 Square Miles. Altitude, 9,380 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			3	4	210	94	500	314	107	95	395	
2.....			3	5	219	253	555	420	107	95	395	
3.....			3	5	219	760	610	445	103	95	390	
4.....			3	6	210	850	610	500	99	95	327	
5.....			3	6	210	850	610	500	120	95	74	
6.....			3	6	210	760	640	345	153	95	82	
7.....			3	6	210	538	555	292	175	144	81	
8.....			3	6	213	473	528	280	175	229	69	
9.....			3	6	216	473	555	284	175	284	64	
10.....			3	6	219	350	610	284	175	309	62	
11.....			4	6	260	292	610	284	175	309	44	
12.....			4	6	555	292	610	280	178	304*	14	
13.....			4	6	970	292	610	276	178	304		
14.....			4	7	970	292	528	292	178	304		
15.....			4	7	850	292	528	304	178	296		
16.....			4	8	640	292	555	318	160	296		
17.....			4	8	500	300	605	300	131	296		
18.....			4	9	483	395	700	296	118	288		
19.....			4	14	483	730	700	292	118	280		
20.....			4	39	483	730	610	276	118	280		
21.....			4	84	483	670	640	246	103	276		
22.....			4	158	483	670	610	257	92	268		
23.....			4	195	555	610	473	249	92	268		
24.....			4	195	395	500	445	239	92	264		
25.....			4	195	94	201	473	235	92	280		
26.....			4	195	910	44	445	201	92	256		
27.....			4	195	1210	18	370	133	92	253		
28.....			4	195	1210	190	336	94	92	246		
29.....			4	201	1210	445	318	90	92	239		
30.....			4	210	850	500	272	90	92	232		
31.....			4		128		272	99		296		
Mean.....			3.7	66.3	512	439	532	275	129	237	166	
Run-off acre-feet.....			228	3950	31500	26100	32700	16900	7680	14600	3960	

Unless otherwise noted, all discharges are in cubic feet per second.

*Rio Grande Reservoir gates closed.

Note.—Discharge estimated. March 1—March 10.

Discharge of Rio Grande at Thirtymile Bridge for 1914.
Drainage Area, 163 Square Miles. Altitude, 9,380 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					122	980	625	740	125	87	95	
2					130	1240	625	740	125	87	95	
3					130	1540	000	710	125	95	95	
4					130	1770	710	680	125	95	95	
5					140	1770	830	650	125	95	95	
6					150	1770	865	575	125	95	95	
7					162	1770	900	525	125	95	95	
8					162	1880	865	430	125	95	95	
9					122	1400	865	150	117	95	95	
10					85	735	830	95	117	95	87	
11					48	615	830	102	117	95	87	
12					36	510	800	290	102	95	87	
13					39	535	740	290	87	95	65	
14					65	535	770	290	87	95	55	
15					150	535	800	270	87	95	55	
16					285	615	770	270	87	95	55	
17					385	945	770	270	87	95	55	
18					410	1880	770	270	87	95	55	
19					410	2100	800	290	87	95	55	
20					410	1980	800	310	87	95	55	
21					410	1860	800	310	87	95	55	
22					560	1520	800	310	87	95	55	
23					825	1320	800	310	87	95	55	
24					1050	1180	770	255	87	95	55	
25					1015	1040	770	255	87	95	55	
26					980	830	770	255	87	95	55	
27					980	740	770	225	87	95	52	
28					945	710	770	225	87	95	47	
29				*45	885	710	770	210	87	95	47	
30				85	885	710	740	195	87	95	47	
31					885		740	195		95		
Mean					65	420	1170	776	345	101	94	70
Run-off acre-feet					258	25800	69600	47700	21200	5990	5810	4140

Unless otherwise noted, all discharges are in cubic feet per second. * Rio Grande Reservoir gates opened.

RIO GRANDE NEAR CREEDE.

Location.—In the Rio Grande National Forest, at a highway bridge in about sec. 8, T. 41 N., R. 1 E., a quarter of a mile from Wason siding and 3 miles southeast of Creede. Nearest tributary, Willow or Goblin Creek, enters a short distance upstream.

Records Available.—April 24, 1907, to November 30, 1914.

Drainage Area.—689 square miles (topographic sheets and Forest Atlas).

Gage.—An automatic recording gage. It is referred to the same datum as the chain gage used previously.

Channel.—Practically permanent.

Discharge Measurements.—Made from bridge.

Winter Flow.—River frozen over during winter months; ice causes backwater at gage.

Reservoirs.—Daily, monthly and annual discharges modified by storage in the Rio Grande and Santa Maria Reservoirs, 30 miles above.

Diversions.—There are no court decrees for diversions from the Rio Grande above this station, but for diversions of 39 second-feet from tributaries. There are no reservoirs on the river between this station and the one at Thirtymile Bridge, but a large one is being built on Clear Creek, which enters between.

Accuracy.—Good.

Co-operation.—During 1913 and 1914 this station was maintained by the State engineer in co-operation with the United States Forest Service.

DISCHARGE MEASUREMENTS RIO GRANDE AT WASON NEAR CREEDE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 24	Chas. E. Turner.....		90*	Mch. 25	B. S. Clayton.....	0.14	120*
Feb. 7	Chas. E. Turner.....		81*	Apr. 6	C. O. Crisman.....	0.67	260
Mch. 21	Chas. E. Turner.....	0.02	111	May 23	C. O. Crisman.....	3.95	3232
May 24	C. O. Crisman.....	2.40	1456	June 7	R. I. Meeker.....	3.92	3306
June 19	G. O. Crisman.....	2.55	1600	June 18	C. C. Hermalhaleb ...	3.82	3026
July 22	C. O. Crisman.....	2.00	1170	July 9	C. O. Crisman.....	2.56	1637
Aug. 25	C. O. Crisman.....	1.25	568	Aug. 26	C. O. Crisman.....	1.30	616
Sept. 22	C. O. Crisman.....	0.60	230	Sept. 12	C. O. Crisman.....	0.92	273
Oct. 30	C. O. Crisman.....	0.90	365	Nov. 16	H. D. Amsley.....	0.39	181
				Dec. 16	H. D. Amsley.....		86*

*Ice interference.

Discharge of Rio Grande at Wason Near Creede for 1913.
Drainage Area, 700 Square Miles. Altitude, 8,591 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				660	520	1160	910	660	342			
2.....				555	410	1110	990	660	342			
3.....				388	365	1470	1070	800	320			
4.....				222	342	1660	1030	730	320			
5.....				175	365	1660	950	660	388			
6.....				240	435	1380	910	625	410			
7.....		81		222	625	1240	990	590	410			
8.....				130	800	1160	950	590	490			
9.....				100	870	1290	950	590	520			
10.....				115	835	1560	1110	590	460			
11.....				122	990	1380	950	590	410			
12.....				162	1160	1240	910	590	410			
13.....				222	1340	1200	910	590	410			
14.....				388	1770	1200	870	590	388			
15.....				365	1340	1200	910	590	365			
16.....				365	1470	1200	950	590	342			
17.....				435	1380	1290	950	590	320			
18.....				460	1380	1470	1110	590	300			
19.....				460	1380	1660	1160	590	280			
20.....				388	1240	1520	1110	590	240			
21.....			111	365	1200	1380	1110	555	240			
22.....				342	1240	1240	1110	590	240			
23.....				365	1520	1200	1110	555	240			
24.....	90			342	1950	1110	1030	520	240			
25.....				300	1340	910	950	520	240			
26.....				320	1890	660	950	520	240			
27.....				320	2370	590	870	435	240			
28.....				365	2250	660	835	342	260			
29.....				435	2250	870	765	365	280			
30.....				520	2310	870	765	365	300			
31.....					1420		695	365				
Mean.....				328	1250	1220	964	565	333			
Run-off acre-feet.....				19500	76900	72500	59300	34700	19800			

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Rio Grande at Wason for 1914.
Drainage Area, 700 Square Miles. Altitude, 8,591 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				240	510	4380	1510	1460	510	945	370	
2.....				240	510	4660	1460	1420	395	945	370	
3.....				240	510	4560	1460	1380	395	1040	345	
4.....				240	510	4380	1660	1280	395	1440	320	
5.....				240	570	4030	1760	1240	420	990	320	
6.....				280	660	3790	1660	1200	395	1020	320	
7.....				280	800	3390	1660	1110	370	1020	320	
8.....				240	1070	3020	1600	1110	370	995	300	
9.....				205	1380	2560	1600	1030	370	900	280	
10.....				240	1460	3550	1560	765	370	885	280	
11.....				220	1420	3790	1510	630	370	820	280	
12.....				205	1280	3480	1460	730	370	775	300	
13.....				240	1330	3180	1460	765	370	570	300	
14.....				320	1240	2870	1460	765	345	540	280	
15.....				370	1200	2560	1420	730	320	480	240	
16.....				370	1240	2500	1460	695	320	480	190	
17.....				320	1330	2360	1560	695	300	450	175	
18.....				260	1380	3160	1860	660	570	420	160	
19.....				280	1380	3710	1920	630	850	420	160	
20.....				320	1660	3550	1860	660	945	420	160	
21.....				370	1980	3240	1700	730	1140	420	160	
22.....				345	2440	3020	1600	765	1040	480	160	
23.....				370	3160	2620	1510	730	900	480	160	
24.....				320	3320	2440	1460	695	1040	450	160	
25.....				345	2890	2260	1460	570	1040	420	160	
26.....				450	2820	1960	1420	540	1040	420	160	
27.....				395	2880	1700	1460	570	945	395	160	
28.....				370	2620	1600	1510	600	945	395	160	
29.....				345	2620	1760	1460	695	945	395	175	
30.....				395	3160	1510	1420	695	945	395	160	
31.....					3550		1460	630		395		
Mean.....				302	1710	3050	1560	844	624	652	236	
Run-off acre-feet.....				12000	104000	121000	96000	51900	37200	40000	14100	

Unless otherwise noted, all discharges are in cubic feet per second.

RIO GRANDE NEAR DEL NORTE.

Location.—At highway bridge in about sec. 30, T. 40 N. R. 5 E., 6 miles west of Del Norte, a short distance below the mouth of Wolf Creek. From October 11, 1889, to November 30, 1906, a station was maintained about 4 miles below the present station and just above Los Pinos Creek. The flow at the two points is comparable, if a few small ditches are disregarded.

Records Available.—May 16, 1908, to November 30, 1914.

Drainage Area.—1,400 square miles.

Gage.—Automatic recording gage. The gage is referred to the same datum as was the chain gage installed May 16, 1908.

Channel.—Slightly shifting at sides from silt deposition at low water.

Discharge Measurements.—Made from bridge.

Winter Flow.—River is frozen over during the winter months.

Reservoirs.—Daily, monthly and annual discharges modified by storage in Beaver Park, Santa Maria and Rio Grande Reservoirs.

Diversions.—There are court decrees for diversions of 101 second-feet from the Rio Grande between the Creede station and Del Norte, and for diversions of 162 second-feet from intervening tributaries.

DISCHARGE MEASUREMENTS RIO GRANDE NEAR DEL NORTE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 26	Chas. E. Turner.....		165*	Feb. 24	B. S. Clayton.....	0.85	336
Feb. 8	Chas. E. Turner.....		156*	Apr. 7	C. O. Crisman.....	1.26	663
May 24	C. O. Crisman.....	3.12	2963	May 22	C. O. Crisman.....	4.02	4866
June 21	C. O. Crisman.....	2.68	2284	June 5	R. I. Meeker.....	4.20	5383
July 24	C. O. Crisman.....	1.80	1156	June 19	C. C. Hermalhalch ...	4.18	4907
Aug. 27	C. O. Crisman.....	1.76	648	July 2	C. O. Crisman.....	2.41	2012
Sept. 23	C. O. Crisman.....	1.10	523	July 22	C. O. Crisman.....	2.65	2350
Oct. 31	C. O. Crisman.....	1.11	517	Aug. 27	C. O. Crisman.....	1.59	976
				Sept. 21	C. O. Crisman.....	1.74	1223
				Oct. 28	Meeker & Amsley.....	1.18	550
				Nov. 27	H. D. Amsley.....	0.59	206
				Dec. 17	H. D. Amsley.....		182*

*Ice conditions.

Discharge of Rio Grande near Del Norte for 1913.
Drainage Area, 1,400 Square Miles. Altitude, 7,868 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					1460	2340	1280	720	470	470	525	310
2.....					1340	2340	1170	720	470	470	525	310
3.....					1120	2420	1230	875	498	498	555	190
4.....					920	2860	1220	835	470	650	618	290
5.....					1060	2770	1170	835	470	585	618	310
6.....					1400	2590	1170	795	525	525	618	310
7.....					1660	2340	1170	795	555	498	435	310
8.....		*156			1660	2420	1060	650	555	498	435	310
9.....					1460	2020	1060	618	650	498	410	310
10.....					1600	2180	1170	650	555	498	350	310
11.....					2100	2680	1120	650	585	498	350	310
12.....				410	2500	2500	1060	650	585	555	390	310
13.....				555	3140	2260	1020	795	555	585	350	290
14.....				795	2950	2020	965	720	525	650	350	290
15.....				1170	2420	2020	920	685	525	650	310	290
16.....				1060	2420	2100	965	720	525	618	310	290
17.....				1400	2500	2100	965	685	498	618	310	310
18.....				1120	2500	2100	965	685	470	618	310	310
19.....				965	2590	2420	1280	685	435	618	350	330
20.....				920	2180	2420	1118	685	435	618	350	330
21.....				1020	2100	2260	1280	720	410	618	350	330
22.....				1020	2020	2020	1220	720	410	585	330	330
23.....				875	2590	1950	1220	720	470	585	310	310
24.....				685	2950	1950	1060	685	498	585	290	310
25.....	*165			685	2950	1660	1020	685	470	585	290	310
26.....				720	2770	1280	1020	650	435	555	290	310
27.....				965	3800	1120	920	618	435	555	290	290
28.....				1220	3710	1060	875	555	435	555	290	290
29.....				1400	3710	1600	835	498	410	525	310	290
30.....				1530	3710	1460	835	498	410	525	310	290
31.....					3420		758	498		525		290
Mean.....				974	2350	2110	1070	687	491	562	384	302
Run-off acre-feet.....				36700	144000	126000	65800	42200	29200	34600	22800	18600

Unless otherwise noted, all discharges are in cubic feet per second. *Measurements.

Discharge of Rio Grande near Del Norte for 1914.
Drainage Area, 1,400 Square Miles. Altitude, 7,868 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				300	780	5290	2090	1760	730	1100	460	
2.....				330	830	5820	2020	1830	630	1100	460	
3.....				390	830	5820	1960	1830	540	1210	460	
4.....				500	830	5820	1960	1830	540	2520	425	
5.....				585	880	5090	2090	1760	540	1830	425	
6.....				680	1100	4990	2160	1580	540	1450	390	
7.....				630	1330	4300	2160	1390	500	1330	390	
8.....				585	1830	4010	2160	1390	460	1270	260	
9.....				425	2440	3480	2090	1390	460	1160	360	
10.....				460	2820	2980	2020	1040	460	1100	330	
11.....				460	2740	3400	1960	990	460	990	330	
12.....				425	2520	3560	1900	780	500	935	330	
13.....				460	2600	3920	1900	880	680	830	330	
14.....				540	2600	3740	1900	880	830	780	275	
15.....				830	2300	3310	1900	880	780	680	250	
16.....				935	2300	3920	1960	880	780	630	230	
17.....			275	780	2300	3650	1900	830	680	585	192	
18.....			275	585	2520	3830	2600	830	680	540	175	
19.....			275	630	2520	4790	2440	830	990	540	160	
20.....			275	780	2820	4790	2740	780	1100	500	160	
21.....			275	935	3220	4300	2440	830	1330	500	160	
22.....			275	830	3650	4010	2300	990	1210	630	160	
23.....			275	780	4690	3560	2160	935	1040	630	160	
24.....			275	730	4690	3310	2020	880	1210	630	160	
25.....			300	830	4490	2980	2020	830	1210	585	160	
26.....			300	935	4490	2820	1960	830	1210	585	175	
27.....			300	830	4690	2380	1960	935	1100	585	192	
28.....			300	780	4100	2230	2090	780	1100	540	210	
29.....			300	730	4100	2090	2090	730	1100	540	230	
30.....			300	730	4590	1960	1960	780	1100	500	210	
31.....			300		4990		1960	730		500		
Mean.....			286	314	2790	3870	2090	1080	816	881	277	
Run-off acre-feet.....			8530	18700	172000	230000	129000	66700	48600	54200	16500	

Unless otherwise noted, all discharges are in cubic feet per second.

RIO GRANDE AT ALAMOSA.

Location.—At Concrete road bridge in Alamosa, one-third of a mile above D. & R. G. Railroad bridge, where station was originally established in 1894, discontinued in 1895, and re-established in 1912. The flow at the two points is comparable, except for one small ditch diversion. Records initiated by State of Colorado April 19, 1914.

Records Available.—Discharge measurements and gage heights September 24, 1894, to December 31, 1895. Miscellaneous measurements, 1903 and 1910. Daily discharges May 15, 1912, to November 30, 1914.

Drainage Area.—Not measured.

Gage.—Chain.

Channel.—Shifting sand.

Discharge Measurements.—From Concrete road bridge at high water and by wading at low water.

Winter Flow.—Ice cover forms during winter months.

Diversions.—Below all but one of the large diversions from the Rio Grande.

Co-operation.—The records for 1913 were secured by the United States Reclamation Service and are published as furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS RIO GRANDE AT ALAMOSA.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 6	Stannard & Robinson.	4.88	63.8	Apr. 9	C. O. Crisman.....	3.71	497
May 8	Stannard & Robinson.	4.54	25.8	Apr. 20	C. O. Crisman.....	2.79	180
May 9	Stannard & Robinson.	5.07	126.	Apr. 24	C. O. Crisman.....	2.50	109
May 14	Stannard & Robinson.	6.06	414.	May 1	C. O. Crisman.....	2.13	54
May 17	Stannard & Robinson.	5.22	180.	May 20	Crisman & Stannard..	3.55	401
May 20	Stannard & Robinson.	5.04	117.	May 25	Crisman & Stannard..	6.15	2179
May 22	Stannard & Robinson.	4.64	36.	June 22	R. I. Meeker.....	6.85	2926
May 26	Stannard & Robinson.	5.88	303.	July 6	C. O. Crisman.....	3.70	348
May 29	Stannard & Robinson.	6.50	576.	July 13	C. O. Crisman.....	2.98	114
May 31	Stannard & Robinson.	6.59	640.	July 20	C. O. Crisman.....	5.30	1449
June 2	Stannard & Robinson.	5.33	169.	Sept. 1	C. O. Crisman.....	3.85	560
June 6	Stannard & Robinson.	5.55	244.	Sept. 16	C. O. Crisman.....	3.59	467
June 12	Stannard & Robinson.	7.12	981.	Oct. 5	Meeker & Amsley	5.33	1465
June 13	Stannard & Robinson.	7.43	1177.	Oct. 5	H. D. Amsley	5.43	1595
June 18	Stannard & Robinson.	6.69	695.	Oct. 15	H. D. Amsley	3.56	437
June 20	Stannard & Robinson.	6.96	835.	Nov. 1	Meeker & Amsley	3.34	333
June 23	Stannard & Robinson.	6.30	465.	Nov. 2	Meeker & Amsley	3.27	306
June 26	Stannard & Robinson.	5.71	204.	Nov. 30	Amsley & Meeker....	3.09	270

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
July 5	Stannard & Robinson.	4.44	15.7	Dec. 15	H. D. Amaley.....		108*
July 10	Stannard & Robinson.	4.36	11.2	Dec. 23	H. D. Amaley.....		159*
July 26	Stannard & Robinson.	4.25	7.8				
Aug. 7	Stannard & Robinson.	4.25	8.3				
Aug. 11	Stannard & Robinson.	4.11	2.5				
Sept. 5	Stannard & Robinson.	4.48	22.2				
Oct. 4	Stannard & Robinson.	5.62	235.				
Oct. 6	Stannard & Robinson.	6.10	367.				
Oct. 13	Stannard & Robinson.	6.30	461.				
Oct. 28	Stannard & Robinson.	6.03	361.				

*Ice interference.

Discharge of Rio Grande at Alamosa for 1913.
Altitude, 7,536 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					330	440	84	12	6	84	390	
2.....					279	177	58	11	5	132	394	
3.....					156	104	22	10	14	219	417	
4.....					124	84	22	10	31	242	402	
5.....					84	88	21	9	26	355	529	
6.....					72	184	21	6	25	390	510	
7.....					44	138	20	10	22	390	394	
8.....					37	82	17	6	22	370	334	
9.....					106	70	17	4	20	374	307	
10.....					68	62	16	3	49	448	297	
11.....					42	99	12	3	43	457	285	
12.....					44	1010	16	4	43	470	273	
13.....					114	1200	37	4	42	470	268	
14.....					330	1020	27	4	43	457	265	
15.....					291	836	20	4	37	457	268	
16.....					161	752	20	4	36	457	273	
17.....					138	733	23	4	30	448	262	
18.....					130	650	24	5	25	444	270	
19.....					110	667	26	5	22	431	270	
20.....					101	815	27	6	21	431	310	
21.....					49	802	27	6	20	417	316	
22.....					41	638	24	6	20	413	313	
23.....					36	474	27	6	26	413	310	
24.....					103	386	33	6	22	406	279	
25.....					203	316	13	6	23	406	273	
26.....					240	256	9	19	23	390	270	
27.....					95	196	8	10	23	386	297	
28.....					398	143	6	6	35	386	273	
29.....				363	539	114	5	6	43	367	262	
30.....				344	579	84	5	6	59	382	276	
31.....					632		12	5		415		
Mean.....					183	421	23	6	28	384	323	
Run-off acre-feet.....				1400	11300	25000	1390	405	1700	23600	19200	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Rio Grande at Alamosa for 1914.
Altitude, 7,536 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					60	2100	295	1040	560	635	320	
2.....					60	2400	255	1010	535	685	300	
3.....					60	2980	220	1040	510	635	285	
4.....					60	3150	175	960	440	685	285	
5.....					60	3150	160	920	390	1500	285	
6.....					55	2930	315	770	360	1310	255	
7.....					55	2550	255	770	360	1100	240	
8.....					50	2350	220	660	320	980	225	
9.....					195	1920	190	610	300	920	225	
10.....					740	1420	160	560	270	710	225	
11.....					1100	1100	130	440	255	710	225	
12.....					1040	1040	130	360	255	635	255	
13.....					860	1010	105	285	270	585	270	
14.....					860	1100	105	240	380	460	270	
15.....					740	1280	105	210	440	440	285	
16.....					610	1820	95	170	440	340	285	
17.....					510	2000	130	150	440	270	285	
18.....					510	2050	190	130	420	225	285	
19.....				210	535	2350	680	140	485	225	270	
20.....				170	460	2760	1340	120	635	210	255	
21.....				160	585	3040	1580	120	740	150	225	
22.....				160	770	2880	1460	120	800	120	225	
23.....				140	1070	2400	1420	170	800	150	255	
24.....				110	1780	2930	1310	300	740	195	255	
25.....				90	2150	1650	1240	380	740	270	255	
26.....				75	2150	1260	1340	360	740	285	255	
27.....				65	2050	990	1280	360	685	320	255	
28.....				70	2100	650	1200	460	685	320	270	
29.....				65	1660	530	1310	460	685	320	255	
30.....				65	1660	380	1310	460	635	340	255	
31.....					1780		1140	535		340		
Mean.....				115	850	1940	640	461	512	518	258	
Run-off acre-feet.....				2740	52300	115000	39300	28400	30500	31900	15300	

Unless otherwise noted, all discharges are in cubic feet per second.

RIO GRANDE NEAR LOBATOS.¹

Location.—At highway bridge in sec. 22, T. 33 N., R. 11 E., 10 miles east of Lobatos and a few miles above the Colorado-New Mexico line; 17 miles below mouth of Conejos River.

Records Available.—June 28, 1899, to November 30, 1914.

Drainage Area.—7,700 square miles.

Gage.—Automatic recording gage. This gage is referred to the datum of the original gage.

Channel.—A gash cut in lava rock; shifting blanket of sand.

Discharge Measurements.—Made from bridge.

Winter Flow.—Ice causes backwater varying in amount during the three winter months.

Diversions.—There are court decrees for diversions from the Rio Grande of 5,134 second-feet between the Del Norte station and this one. There are also decrees for diversions from the following tributaries: Minor tributaries above Alamosa, 464 second-feet; Alamosa and tributaries, 2,116 second-feet; Conejos and tributaries, 3,464 second-feet; Culebra and tributaries, 177 second-feet.

DISCHARGE MEASUREMENTS RIO GRANDE NEAR LOBATOS.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 26	Chas. E. Turner.....		230*	Mch. 27	B. S. Clayton.....	2.05	508
Feb. 10	Chas. E. Turner.....		224*	Apr. 4	C. O. Crisman.....	2.08	562
Mar. 20	Chas. E. Turner.....		391*	May 8	C. O. Crisman.....	2.17	634
May 16	C. O. Crisman.....	2.42	904	June 6	R. I. Meeker.....	5.05	4262
May 31	C. O. Crisman.....	2.71	1100	June 27	C. O. Crisman.....	2.86	1285
June 28	C. O. Crisman.....	1.72	285	July 3	C. O. Crisman.....	1.68	310
July 28	C. O. Crisman.....	1.00	69	July 21	C. O. Crisman.....	3.13	1682
Aug. 1	Robert Follansbee....	0.78	40	Aug. 31	C. O. Crisman and R. I. Meeker.....	2.58	1031
Aug. 29	C. O. Crisman.....	0.80	44	Sept. 22	R. I. Meeker and C. O. Crisman.....	2.75	1224
Sept. 29	C. O. Crisman.....	1.18	114	Nov. 4	R. I. Meeker and H. D. Amsley.....	2.02	528
Oct. 20	F. O'Brien.....	1.88	481	Nov. 5	R. I. Meeker and H. D. Amsley.....	1.97	489
				Nov. 11	R. I. Meeker and H. D. Amsley.....	1.89	391
				Dec. 20	H. D. Amsley.....		316*

*Ice conditions.

¹Originally known as Rio Grande at Cenicero, Colo.

SOUTH FORK OF RIO GRANDE AT SOUTH FORK.

Location.—At highway bridge half a mile west of South Fork station, in sec. 34, T. 40 N., R. 3 E. No tributaries between the station and the mouth and none for several miles above.

Records Available.—August 9, 1910, to November 30, 1914. Also a number of discharge measurements made in 1909 by the United States Geological Survey.

Drainage Area.—216 square miles.

Gage.—Chain gage established May 12, 1912, at the site of the original staff gage, but referred to a different datum. The original gage was washed out by flood October 5, 1911, and was replaced by an inclined staff gage at the railroad bridge at different datum, October 16, 1911. This gage was read until May 12, 1912.

Channel.—Apparently permanent at the present location.

Discharge Measurements.—Made from bridge.

Winter Flow.—Ice causes backwater during the winter months.

Reservoirs.—Daily and monthly discharges modified by storage in Beaver Park Reservoir.

Diversions.—There are court decrees for diversions of 11 second-feet from South Fork above the station; none below.

DISCHARGE MEASUREMENTS SOUTH FORK RIO GRANDE AT SOUTH FORK.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 25	Chas. E. Turner.....		31*	Apr. 7	C. O. Crisman.....	1.10	190
Feb. 8	Chas. E. Turner.....		33*	May 22	C. O. Crisman.....	2.50	922
Mar. 22	Chas. E. Turner.....		45*	June 19	C. C. Hesmalhalch ...	2.41	876
May 24	C. O. Crisman.....	2.34	777	July 22	C. O. Crisman.....	1.13	235
June 20	C. O. Crisman.....	1.85	487	Aug. 27	C. O. Crisman.....	0.83	147
July 23	C. O. Crisman.....	0.87	121	Sept. 13	C. O. Crisman.....	1.42	330
Aug. 26	C. O. Crisman.....	0.52	53	Oct. 6	H. D. Amsley.....	1.26	295
Sept. 24	C. O. Crisman.....	0.62	66	Nov. 27	H. D. Amsley.....	0.73	80*
Nov. 1	C. O. Crisman.....	0.48	51	Dec. 17	H. D. Amsley.....		34*

*Ice conditions.

Discharge of Rio Grande at Lobatos for 1913.
Altitude, 7,400 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Avg.	Sept.	Oct.	Nov.	Dec.
1.....				1300	1465	1360	205	45	38	110	430	
2.....				1200	1410	1050	185	45	30	135	420	
3.....				1100	1150	800	165	38	30	150	400	
4.....				1100	782	690	165	30	38	228	530	
5.....				850	615	572	110	30	45	250	530	
6.....				572	800	615	85	25	65	295	530	
7.....				530	800	572	65	25	65	320	615	
8.....				615	900	495	55	30	55	345	495	
9.....				900	752	530	45	25	55	400	400	
10.....		224		705	705	572	45	25	55	430	372	
11.....				615	705	800	45	20	55	460	372	
12.....				495	850	1050	30	25	65	460	345	
13.....				430	950	1750	30	30	75	460	345	
14.....				400	1150	1810	38	38	75	430	345	
15.....				660	1100	1520	30	45	75	430	345	
16.....				900	1000	1460	30	38	75	460	345	
17.....				1050	615	1250	30	30	65	460	345	
18.....				1200	530	1150	30	30	75	460	345	
19.....				1410	615	1100	30	30	65	430	345	
20.....			391	1300	615	1000	45	30	65	430	400	
21.....				1360	530	1100	38	30	65	430	400	
22.....				1410	460	1100	55	38	65	400	400	
23.....				1300	372	1000	65	55	75	430	400	
24.....				1100	345	752	150	55	85	460	400	
25.....				1100	460	705	185	65	85	460	400	
26.....		230		900	615	495	135	55	98	400	345	
27.....				752	900	430	110	55	98	430	400	
28.....				850	850	345	75	45	122	430	345	
29.....				1200	1100	272	85	45	110	430	345	
30.....				1460	1150	228	65	45	110	430	345	
31.....					1200		65	45		460		
Mean.....				959	821	885	80	38	69	384	403	
Run-off acre-feet.....				57100	50500	52700	4920	2340	4110	23600	24000	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Rio Grande at Lobatos for 1914.
Altitude, 7,400 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			310	585	545	2830	375	1510	925	760	545	
2.....			375	545	625	3610	320	1320	850	805	505	
3.....			347	545	625	4090	295	1290	778	805	470	
4.....			405	545	545	4330	270	1230	688	805	470	
5.....			405	545	545	4580	270	1200	670	1200	470	
6.....			435	569	585	4440	247	1120	625	1910	491	
7.....			405	670	545	3980	375	995	585	1630	470	
8.....			405	805	652	3390	405	975	585	1430	423	
9.....			405	805	868	2790	320	850	505	1280	405	
10.....			470	850	1590	2200	285	805	505	1150	375	
11.....			470	760	2360	1610	247	805	435	1020	375	
12.....			470	670	2500	1280	270	715	435	895	375	
13.....			470	670	2400	1430	247	625	470	733	435	
14.....			470	652	2200	1490	225	505	585	670	435	
15.....			470	585	2100	1670	197	405	805	670	435	
16.....			470	569	1790	1980	185	347	995	545	435	
17.....			505	609	1550	2560	197	310	1040	470	435	
18.....			585	715	1380	2970	205	270	945	405	435	
19.....			625	585	1320	3110	225	247	945	375	435	
20.....			670	585	1260	3320	609	270	895	347	435	
21.....			625	585	1260	3390	1550	261	1150	331	405	
22.....			715	670	1430	3580	1810	295	1200	320	375	
23.....			625	760	1830	3460	1790	295	1130	310	390	
24.....			625	760	2420	2900	1730	305	1060	331	405	
25.....			625	670	3210	2230	1650	435	1040	435	435	
26.....			585	670	2870	1750	1590	545	1020	505	435	
27.....			585	715	2740	1320	1670	569	975	505	435	
28.....			585	625	2660	995	1590	733	945	505	375	
29.....			609	545	2360	670	1670	850	895	521	375	
30.....			625	545	2360	470	1790	945	805	545	375	
31.....			609		2420		1790	995		545		
Mean.....			514	647	1660	2610	787	710	817	734	429	
Run-off acre-feet.....			31600	38500	102000	155000	48400	43700	48600	45100	25500	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of South Fork Rio Grande at South Fork for 1913.
Drainage Area, 216 Square Miles. Altitude, 8,176 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	35	35	40	80	305	840	265	58	50	120	65	80
2	35	35	40	100	285	920	230	50	65	100	65	72
3	35	35	40	150	350	840	200	50	72	170	80	80
4	35	35	45	170	445	765	200	65	80	170	80	120
5	35	35	45	190	305	840	170	50	120	145	58	120
6	30	35	45	210	395	695	170	50	120	120	65	120
7	30	35	40	250	445	730	145	65	80	100	65	120
8	30	*33	40	250	472	695	110	50	80	90	65	110
9	30	35	40	270	395	625	120	65	65	100	65	100
10	30	35	40	300	445	695	120	50	80	80	58	100
11	30	40	40	300	840	765	110	80	80	80	50	80
12	30	40	40	300	765	625	100	100	90	80	65	80
13	30	40	40	305	695	500	110	80	80	80	80	
14	30	40	35	372	625	445	72	72	65	100	80	
15	30	45	35	472	445	472	100	50	65	90	65	
16	30	45	35	530	500	472	65	40	65	100	38	
17	30	45	35	350	730	500	80	40	50	90	50	
18	30	45	40	285	625	445	120	40	50	80	65	
19	30	40	40	248	695	500	100	45	50	80	65	
20	30	40	40	350	560	500	158	40	45	80	58	
21	30	35	45	372	625	500	100	65	40	80	65	
22	30	35	*45	305	500	445	120	100	50	80	65	
23	30	35	45	265	695	395	120	65	170	72	80	
24	30	40	45	285	802	328	100	65	132	80	65	
25	*31	40	40	215	765	285	65	72	100	65	65	
26	35	45	40	230	695	305	65	80	80	80	80	
27	35	40	40	248	840	305	65	50	80	50	120	
28	35	40	45	328	920	305	58	50	65	58	120	
29	35		50	420	765	625	58	45	80	50	100	
30	35		60	530	840	265	50	50	90	65	65	
31	35		70		840		65	50		72		
Mean	31.8	38.5	42.6	289	600	554	116	59	78	90	70	98
Run-off acre-feet	1960	2140	2620	17200	36900	33000	7130	3630	4640	5530	4160	2330

Unless otherwise noted, all discharges are in cubic feet per second. Discharge estimated Jan. 1-Apr. 12.

*Measurements.

**Discharge of South Fork Rio Grande at South Fork for 1914.
Drainage Area, 216 Square Miles. Altitude, 8,176 Feet Above
Sea Level.**

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				105	222	1200	415	135	122	148	110	
2.....				105	222	1120	350	162	110	162	90	
3.....				118	206	1160	370	192	90	920	90	
4.....				145	175	1120	415	162	90	770	81	
5.....				222	206	415	370	110	110	390	90	
6.....				222	240	920	291	135	122	291	110	
7.....				190	295	860	291	148	110	255	110	
8.....				145	375	680	273	148	110	255	110	
9.....				190	490	620	291	162	135	222	122	
10.....				160	540	800	515	162	110	192	110	
11.....				160	515	920	370	122	90	192	110	
12.....				145	540	990	370	110	177	207	110	
13.....				145	540	990	310	122	291	177	110	
14.....				175	490	1060	310	90	177	162	110	
15.....				190	655	1060	330	110	110	135	72	
16.....				258	655	1060	415	110	100	135	63	
17.....				206	444	1060	255	122	207	110	55	
18.....				175	490	1020	291	100	192	110	63	
19.....				160	565	955	330	110	162	100	55	
20.....				222	655	1090	350	110	192	100	47	
21.....				240	655	860	255	135	238	110	55	
22.....				240	655	650	207	162	192	135	55	
23.....				240	820	680	192	148	177	135	55	
24.....				190	1060	620	192	135	177	135	55	
25.....			118	206	890	565	162	100	135	110	72	
26.....			118	240	1200	565	192	90	135	110	81	
27.....			118	206	1060	515	148	100	162	110	90	
28.....			131	175	860	465	162	110	162	90	81	
29.....			118	175	920	415	135	110	135	100	72	
30.....			145	190	1060	415	122	135	162	90	90	
31.....			118		1200		110	135		100		
Mean.....			124	185	610	828	283	129	149	202	84	
Run-off acre-feet....			1720	11000	37500	49300	17400	7900	8890	12400	5000	

Unless otherwise noted, all discharges are in cubic feet per second.

SAGUACHE CREEK NEAR SAGUACHE.

Location.—At Ward's Ranch below the dam site of the Stark-Hagadorn Irrigation Co., 9 miles above Saguache. Ford Creek, the nearest important tributary, enters some distance below.

Records Available.—August 7, 1910, to September 30, 1912; June 1 to November 20, 1914.

Drainage Area.—595 square miles.

Gage.—An automatic recording gage.

Channel.—Shifting.

Discharge Measurements.—Made from footbridge during high water, and by wading at ordinary stages.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—There are court decrees for diversions of 46 second-feet from Saguache Creek above the station, and 365 second-feet below.

Co-operation.—Records through interest of Water Commissioner.

DISCHARGE MEASUREMENTS SAGUACHE CREEK AT WARD'S RANCH.

Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
June 2	R. I. Meeker.....	3.50	521
June 25	R. I. Meeker.....	1.52	156
Aug. 6	R. I. Meeker.....	1.35	133
Sept. 7	C. O. Crisman.....	0.98	68
Oct. 18	R. I. Meeker and H. D. Amsley.....	0.83	46
Oct. 18	H. D. Amsley and R. I. Meeker.....	0.83	47
Nov. 17	H. D. Amsley.....	0.72	31*
Dec. 18	H. D. Amsley.....		18.6*

*Ice conditions.

CONEJOS RIVER NEAR MOGOTE.

Location.—At highway bridge near Mogote. From September 1, 1899, to March 31, 1900, and from April 17, 1903, to October 31, 1905, a station was maintained about 4 miles above Mogote. From March 21, 1907, to October 5, 1911, a station was maintained at Jacob's Ranch, 8 miles above Mogote.

Records Available.—January 1, 1912, to November 30, 1914.

Drainage Area.—282 square miles.

Gage.—Chain.

Channel.—Apparently permanent at present location.

Discharge Measurement.—Made from bridge.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—There are court decrees for diversion of 3,476 second-feet from Conejos River, all but 66 second-feet being diverted below the present station.

Reservoirs.—No reservoirs have been constructed on the Conejos above this station.

DISCHARGE MEASUREMENTS CONEJOS RIVER NEAR MOGOTE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 26	Chas. E. Turner.....		46*	Mch. 27	B. S. Clayton.....	2.08	125
Feb. 10	Chas. E. Turner.....		45*	Apr. 4	C. O. Crisman.....	2.40	195
Mch. 20	Chas. E. Turner.....		51*	May 8	C. O. Crisman.....	3.02	524
May 16	C. O. Crisman.....	3.48	935	June 6	R. I. Meeker and C. O. Crisman.....	4.25	1631
May 31	C. O. Crisman.....	4.30	1603	June 27	C. O. Crisman.....	3.30	771
June 23	C. O. Crisman.....	3.09	580	July 3	C. O. Crisman.....	3.10	612
July 23	C. O. Crisman.....	2.00	113	July 21	C. O. Crisman.....	2.80	415
Aug. 29	C. O. Crisman.....	1.78	68	Aug. 31	C. O. Crisman and R. I. Meeker.....	2.70	384
Sept. 29	C. O. Crisman.....	1.90	92	Oct. 3	R. I. Meeker.....	2.50	297
Oct. 20	C. O. Crisman.....	1.92	97	Nov. 24	H. D. Amaley.....	1.55	49*
				Dec. 21	H. D. Amaley.....		32*

*Ice conditions.

Discharge of Saguache Creek at Saguache for 1914.
Drainage Area, 595 Square Miles. Altitude, 7,800 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1						500	85	198	85	57	37	
2						534		164	78	57	44	
3						524		155	71	57	44	
4						503	147	164	71	57	37	
5						453	147	147	71	57	50	
6						403		122	78	57	37	
7						363		135	57	50	37	
8						316		147	57	50	37	
9						297		107	57	50	31	
10						287		107	57	57	31	
11						278	107	92	57	50	37	
12						260		92	71	50	44	
13						260		85	50	50	37	
14						260		85	64	50	44	
15						260		85	57	50	37	
16						260		85	57	50	31	
17						260		85	57	50	31	
18						260	278	85	57	50	25	
19						260	297	92	57	50	25	
20						260		100	50	44	25	
21						251		107	57	44		
22						206		147	57	57		
23						198		115	50	50		
24						181		85	50	64		
25						155		85	50	57		
26						155		85	57	50		
27						122	155	85	57	44		
28						100		92	57	44		
29						92		92	57	44		
30						85		92	57	44		
31							198	92		44		
Mean						278	177	110	60	51	36	
Run-off acre-feet						16500	*10900	6760	3590	3140	1430	

Unless otherwise noted, all discharges are in cubic feet per second. *31 days.

Discharge of Conejos River near Mogote for 1913.
Drainage Area, 282 Square Miles. Altitude, 8,300 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	45	45	48	90	458	1390	430	50	60	80	70	
2.....	45	45	48	90	310	1390	430	50	42	80	25	
3.....	50	40	50	90	230	1290	430	42	42	90	30	
4.....	50	40	50	100	250	1240	405	35	50	210	30	
5.....	45	40	55	100	330	1240	330	35	70	270	25	
6.....	45	40	55	100	430	1110	290	70	70	192	22	
7.....	40	45	55	110	485	1020	250	50	70	160	30	
8.....	40	45	55	120	485	1060	160	70	80	145	35	
9.....	40	45	60	120	458	1110	230	60	80	175	60	
10.....	40	45	60	130	545	895	230	42	70	160	70	
11.....	40	45	60	115	605	895	230	70	60	145	70	
12.....	40	45	60	115	705	778	210	145	90	130	70	
13.....	40	45	55	210	705	855	145	130	80	115	70	
14.....	40	45	55	290	575	575	130	115	60	130	70	
15.....	40	45	50	330	430	778	130	102	60	115	70	
16.....	40	45	50	310	638	740	145	70	50	130	70	
17.....	40	45	50	230	1110	740	130	60	50	130	90	
18.....	40	45	55	145	1110	670	115	60	42	130	70	
19.....	40	45	50	130	1200	545	115	70	42	80	70	
20.....	40	45	51	192	1160	545	175	90	42	115	70	
21.....	45	40	50	210	1110	638	210	60	42	90	50	
22.....	45	40	50	145	1200	485	230	70	60	80	60	
23.....	45	40	55	70	1200	515	192	70	90	80	35	
24.....	45	40	55	25	1440	545	210	80	80	90	25	
25.....	45	45	50	30	1640	575	145	70	80	90	35	
26.....	46	45	50	42	1840	638	115	60	90	90	70	
27.....	45	45	60	80	1840	705	70	42	70	90	70	
28.....	45	45	65	160	1640	638	60	60	70	80	42	
29.....	45		70	192	1290	485	60	42	80	80	50	
30.....	45		75	430	1440	458	70	60	80	90	50	
31.....	45		80		1390		50	50		70		
Mean.....	43	44	56	150	910	818	197	67	65	120	53	
Run-off acre-feet.....	2640	2440	3440	8930	56000	48700	12100	4120	3870	7380	3150	

Unless otherwise noted, all discharges are in cubic feet per second. Note—Discharge estimated from measurements Jan. 1-Apr. 9.

Discharge of Conejos River near Mogote for 1914.
Drainage Area, 282 Square Miles. Altitude, 8,300 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				140	370	2220	530	220	300	170	125	
2.....				155	320	2220	395	260	280	170	125	
3.....				200	280	2020	560	280	220	280	125	
4.....				240	280	2340	720	345	185	620	125	
5.....				320	300	1780	635	395	170	420	125	
6.....				320	300	1500	620	370	155	345	112	
7.....				320	370	1500	500	345	140	300	112	
8.....			75	280	420	840	445	300	125	260	112	
9.....			75	220	650	720	395	320	125	260	100	
10.....			82	200	840	1040	370	300	140	220	75	
11.....			112	200	840	1720	420	300	112	220	75	
12.....			125	170	960	1900	445	240	155	185	75	
13.....			100	170	1000	2020	500	185	420	220	75	
14.....			155	220	880	1840	590	185	445	185	75	
15.....			112	320	840	1600	500	155	530	170	62	
16.....			185	395	760	1840	445	170	800	155	52	
17.....			140	300	720	1550	445	185	590	155	52	
18.....			170	260	840	1500	470	220	500	140	45	
19.....			140	280	840	1390	620	220	445	125	45	
20.....			140	395	960	1500	500	260	395	125	45	
21.....			125	445	1140	1190	445	300	345	185	45	
22.....			100	470	1440	1000	420	345	300	185	45	
23.....			112	370	1780	880	370	370	300	155	45	
24.....			125	320	1550	840	395	260	260	155	45	
25.....			112	370	1240	685	320	260	220	155	45	
26.....			140	445	1140	685	345	445	220	220	45	
27.....			140	370	1190	685	420	590	185	185	45	
28.....			140	345	1390	620	345	500	170	185	52	
29.....			140	370	1720	560	395	445	170	155	52	
30.....			140	320	1900	445	280	395	170	155	52	
31.....			125		2280		260	345		155		
Mean.....			125	298	953	1350	456	307	286	213	74	
Run-off acre-feet.....			5970	17700	58600	80300	28100	18900	17000	13100	4380	

Unless otherwise noted, all discharges are in cubic feet per second.

SAN JUAN RIVER DRAINAGE

SAN JUAN RIVER AT PAGOSA SPRINGS.

Location.—At Pagosa Springs, in sec. 13, T. 35 N., R. 2 W., New Mexico principal meridian. Nearest tributary is a stream that enters from the north a mile below.

Records Available.—January 24, 1911, to November 14, 1914.

Drainage Area.—287 square miles.

Gage.—Vertical staff. The gage was originally located at a highway bridge above Pagosa Springs. On March 7, 1911, the gage was moved half a mile downstream. It was washed out by a flood October 5, 1911, and a new gage installed November 23 at the present site. The relation between datums of the different gages is not known.

Channel.—Apparently permanent.

Discharge Measurements.—Made from near-by bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes backwater at this station for short periods.

Diversions.—Small irrigation ditches divert water above the station. Between sec. 17, T. 37 N., R. 1 E., and sec. 28, T. 36 N., R. 2 W., there are seven ditches averaging 2 feet wide on top, 1½ feet on bottom and 1½ feet deep. There are court decrees for diversions of 20 second-feet above the station and 175 second-feet from tributaries entering above.

Accuracy.—Conditions are favorable for fairly accurate results; the estimates are considered reliable.

Co-operation.—Station is maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON SAN JUAN RIVER AT PAGOSA SPRINGS.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 15	F. O'Brien.....	3.93	929	May 29	R. S. Watrous.....	5.70	1790
July 15	F. O'Brien.....	1.80	174	Aug. 18	R. S. Watrous.....	1.67	155
Nov. 6	F. O'Brien.....	1.40	103				

SAN JUAN RIVER AT ARBOLES.

Location.—At Arboles, Colo., a quarter of a mile above the mouth of Piedra River, near the center of T. 32 N., R. 5 W.

Records Available.—1895 to 1899; August 21, 1910, to November 30, 1914.

Drainage Area.—1,394 square miles.

Gage.—Chain gage.

Channel.—Probably permanent.

Discharge Measurements.—Made from car and cable and by wading.

Winter Flow.—Severe ice effect.

Diversions.—There are court decrees for the diversion of 23 second-feet between Arboles and the station at Pagosa Springs, and 61 second-feet from intervening tributaries.

Flood Discharge.—Two severe floods have occurred on the San Juan since the station has been maintained. The maximum stage of the flood, September 6, 1909, although very high, was less than that of October 1, 1911, when the river rose 17 feet, with a maximum discharge of about 40,000 second-feet.

Co-operation.—Station maintained in co-operation with the State Engineer of New Mexico and the United States Geological Survey in 1913. During 1914 station maintained by the State Engineer of New Mexico and the United States Geological Survey, by whom records were furnished.

DISCHARGE MEASUREMENTS ON SAN JUAN RIVER AT ARBOLES.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 23*	C. J. Emerson.....	1.43	98.4	Jan. 26*	Emerson & Watrous..	1.10	150
Feb. 17*	Frank O'Brien.....	1.57	112	Feb. 27	R. S. Watrous.....	0.81	298
Apr. 1	Frank O'Brien.....	2.22	1150	Apr. 14	R. S. Watrous.....	2.34	1310
May 13	Frank O'Brien.....	3.54	2400	Apr. 24	R. S. Watrous.....	2.52	1460
Apr. 25	Frank O'Brien.....	1.73	799	May 30	R. S. Watrous.....	4.33	3420
July 16	Frank O'Brien.....	0.82	284	May 31	R. S. Watrous.....	4.90	4440
Aug. 2	Frank O'Brien.....	0.42	169	June 11	R. S. Watrous.....	3.75	2740
Aug. 23	Frank O'Brien.....	0.49	189	Aug. 16	R. S. Watrous.....	0.90	277
Oct. 1	Frank O'Brien.....	0.67	244	Sept. 27	R. S. Watrous.....	1.10	376
Nov. 6	Frank O'Brien.....	0.35	160	Nov. 1	R. S. Watrous.....	1.29	475
Nov. 14	Frank O'Brien.....	0.60	185				
Dec. 18*	C. J. Emerson.....	0.59	194				

*Ice conditions.

NAVAJO RIVER AT EDITH.

Location.—Six miles northeast of Lumberton, N. Mex., at highway bridge on road from Lumberton to Edith, one-fourth mile east of Edith, short distance north of the New Mexico-Colorado State line, near southwestern corner of T. 33 N., R. 1 E., about 5 miles southwest and downstream from the confluence of Navajo and Little Navajo rivers. A small tributary from the north enters Navajo River about one-fourth mile below the station.

Records Available.—September 21, 1912, to November 30, 1914.

Drainage Area.—Not measured.

Gage.—Vertical staff.

Channel.—Permanent at low stages but shifting during high.

Discharge Measurements.—At low stages made by wading; at high stages made from bridge.

Winter Flow.—Greatly affected by ice.

Diversions.—Considerable water is diverted above this station for irrigation.

Accuracy.—Estimates of daily discharge considered good.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the State Engineer of New Mexico. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON NAVAJO RIVER AT EDITH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 24*	C. J. Emerson.....	2.92	34.5	Jan. 28*	R. S. Watrous.....	2.98	36.0
Feb. 18*	F. O'Brien.....	2.61	25.9	Feb. 28*	R. S. Watrous.....	2.40	35.0
Mar. 14*	F. O'Brien.....	1.48	27.9	Apr. 18	R. S. Watrous.....	2.73	403
Apr. 3*	F. O'Brien.....	3.62	134.	Apr. 26	R. S. Watrous.....	2.95	449
Apr. 24	F. O'Brien.....	2.66	255.	May 28	R. S. Watrous.....	3.19	595
May 16	F. O'Brien.....	2.78	287.	July 22	R. S. Watrous.....	2.20	175
June 11	F. O'Brien.....	2.75	288.	Sept. 27	R. S. Watrous.....	1.79	90.5
July 14	F. O'Brien.....	1.90	73	Oct. 31	R. S. Watrous.....	1.96	108
Aug. 3	F. O'Brien.....	1.70	47.6				
Aug. 29	F. O'Brien.....	1.64	37.8				
Sept. 30	F. O'Brien.....	1.70	44.9				
Nov. 4	F. O'Brien.....	1.70	44.2				
Nov. 15	F. O'Brien.....	1.71	48.6				
Dec. 19*	C. J. Emerson.....	2.25	41.2				

*Ice conditions.

Discharge of San Juan River at Pagosa Springs for 1913.
Drainage Area, 287 Square Miles. Altitude, 7,095 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					965	1510	495	120	96	166	96	
2.....					875	1540	455	107	96	185	108	
3.....					655	1540	420	107	87	420	120	
4.....					655	1480	385	107	107	455	107	
5.....					655	1420	325	96	120	376	107	
6.....					785	1260	325	96	120	298	107	
7.....					920	1110	325	96	250	248	107	
8.....					965	1080	298	96	225	226	107	
9.....					875	1040	325	96	248	205	107	
10.....					1010	1110	325	96	166	185	107	
11.....					1160	1260	298	96	134	185	107	
12.....					1310	1040	272	120	149	185	107	
13.....					1360	920	238	298	134	185	107	
14.....					1110	875	205	166	120	185	134	
15.....					920	942	205	134	107	185	127	
16.....					920	1010	205	107	107	166	120	
17.....					1060	875	205	114	107	166	114	
18.....					1160	875	185	120	96	149	114	
19.....					1260	1010	166	120	87	142	120	
20.....					1060	920	196	107	87	134	149	
21.....					1060	830	226	107	92	134	134	
22.....					1010	785	226	205	96	134	120	
23.....					1310	740	226	134	205	134	120	
24.....				420	1540	740	185	127	166	134	120	
25.....				385	1510	655	166	120	166	134	134	
26.....				420	1480	655	149	120	134	127	107	
27.....				600	1720	615	149	107	134	120	107	
28.....				785	1660	695	149	96	142	120	107	
29.....				920	1660	635	134	96	149	107	84	
30.....				920	1600	575	134	96	149	96	84	
31.....					1480		120	96		96		
Mean.....				636	1150	991	249	119	136	187	113	
Run-off acre-feet.....				8830	70700	59000	15300	7320	8090	11500	6720	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of San Juan River at Pagosa Springs for 1914.
Drainage Area, 287 Square Miles. Altitude, 7,095 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					655	2910	655	340	298	149	195	
2.....					615	3180	615	315	272	149	185	
3.....					615	2550	575	285	248	920	185	
4.....					615	2310	505	285	205	2550	176	
5.....					695	2070	615	260	205	1210	166	
6.....				695	740	1790	635	248	225	875	158	
7.....				655	785	1500	595	237	248	740	158	
8.....				595	1060	1210	575	226	272	615	146	
9.....				495	1420	1010	535	231	226	575	134	
10.....				495	1510	1210	515	237	272	495	127	
11.....				535	1600	1660	515	216	272	440	127	
12.....				515	1480	2000	495	195	325	385	127	
13.....				495	1660	2000	475	176	370	355	127	
14.....				575	1420	2000	420	158	420	312	120	
15.....				695	1660	2000	402	149	420	298		
16.....				830	1420	1930	385	147	385	272		
17.....				695	1390	1660	402	145	355	260		
18.....				575	1360	1790	515	142	325	255		
19.....				680	1310	1720	565	142	325	248		
20.....				785	1480	1660	615	142	325	205		
21.....				920	1660	1510	555	149	325	205		
22.....				965	2000	1360	515	495	298	385		
23.....				965	2310	1210	420	330	298	355		
24.....				740	2160	1160	355	166	285	312		
25.....				740	2000	1010	370	149	248	290		
26.....				710	1860	920	350	535	226	272		
27.....				685	1930	875	325	495	195	272		
28.....				655	1720	810	355	420	166	260		
29.....				615	1860	740	420	355	149	237		
30.....				615	2000	895	370	327	134	216		
31.....					2400		355	298		205		
Mean.....				677	1460	1620	487	258	277	462	152	
Run-off acre-feet.....				33500	89800	96400	29900	15900	16500	28400	4220	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of San Juan River at Arboles for 1913.
Drainage Area, 1,394 Square Miles. Altitude, 6,001 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			120	1510	1590	2960	984	159	116	204	146	169
2.....			120	1540	1660	2260	651	169	130	219	152	185
3.....			130	1470	1300	2060	532	167	120	904	169	169
4.....			130	888	2060	2280	542	139	105	1300	245	213
5.....			130	952	1610	1970	471	137	152	582	196	204
6.....			130	2620	1590	2020	498	137	570	515	177	185
7.....			140	2600	1840	2020	450	137	213	450	164	130
8.....			140	1750	920	1960	410	128	116	388	164	120
9.....			140	1110	1250	1700	401	124	225	344	164	120
10.....			180	1320	1740	1700	488	137	205	332	155	120
11.....			240	1410	1740	1810	435	146	225	305	162	140
12.....			280	1680	2100	1720	297	374	268	279	135	120
13.....			220	1910	2300	1630	258	374	146	245	141	120
14.....			160	1990	1740	1630	265	141	205	279	229	130
15.....			140	1900	1480	1560	248	141	164	268	190	130
16.....			160	2140	1560	1680	316	141	159	219	180	160
17.....			200	1610	1630	1660	460	185	130	235	172	180
18.....			180	1610	1810	1180	488	164	120	225	190	194
19.....			180	1480	1960	1130	401	204	110	190	190	160
20.....			220	1660	1300	1080	471	185	116	177	365	140
21.....			258	2140	1770	1030	542	185	116	204	316	140
22.....			169	1540	1600	980	365	164	110	190	332	140
23.....			282	1480	1660	930	365	196	388	204	245	140
24.....			162	984	1840	880	365	185	324	177	235	130
25.....			155	856	2110	830	374	185	305	190	225	130
26.....			180	805	2310	780	316	204	324	190	213	130
27.....			146	1000	3260	730	225	177	268	164	245	130
28.....			137	1610	2560	2160	202	124	219	141	245	130
29.....			235	3100	2760	1480	213	124	219	141	235	130
30.....			826	2840	2810	1000	225	124	219	152	146	130
31.....			1080		2980		177	141		159		130
Mean.....	*100	*115	225	1650	1900	1560	401	171	203	309	204	147
Run-off acre-feet.....	6150	6390	13800	98200	117000	92800	24700	10500	12100	19000	12100	9040

Unless otherwise noted, all discharges are in cubic feet per second. *Estimated from discharge measurements. Discharge estimated Mch. 1-21-Dec. 7-31.

Discharge of San Juan River at Arboles for 1914.
Drainage Area, 1,394 Square Miles. Altitude, 6,001 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			291	1060	1200	6030	1150	488	756	422	456	
2.....			314	1000	1200	4980	1150	461	432	376	432	
3.....			432	960	1220	4510	1330	516	398	868	384	
4.....			362	1200	1230	3870	1360	576	398	5220	384	
5.....			277	1410	1340	3190	1790	576	398	3440	362	
6.....			267	1340	1430	2860	1560	483	398	1320	342	
7.....			178	1380	1380	2560	1260	522	402	1020	342	
8.....			178	1200	1900	2380	1110	510	306	852	342	
9.....			342	1270	2620	2380	1010	540	346	707	321	
10.....			570	1300	2500	2800	1060	467	402	642	321	
11.....			540	1480	2860	2860	1000	461	306	576	371	
12.....			384	1480	2800	3440	976	427	333	516	302	
13.....			456	1270	2860	3360	882	358	742	461	302	
14.....			570	1430	2780	3260	960	317	1180	422	274	
15.....			1080	1660	3100	3090	868	299	1650	376	274	
16.....			1380	1680	3030	3300	800	270	1490	358	250	
17.....			1340	1680	2200	3610	763	306	1270	358	219	
18.....			1500	1560	2540	2930	875	284	1200	358	219	
19.....			1480	1590	2420	2860	1240	270	822	346	219	
20.....			1040	1660	2720	3000	1290	270	800	337	205	
21.....			1160	1590	3100	2730	1190	270	960	358	219	
22.....			602	1720	3410	2430	928	1760	1010	1330	234	
23.....			735	1780	4260	2190	756	1320	576	1330	241	
24.....			830	1480	4590	1990	687	778	516	714	219	
25.....			845	1480	3650	1790	830	534	483	583	211	
26.....			845	1520	3300	1640	770	976	446	534	211	
27.....			882	1380	3470	1280	822	516	516	478	200	
28.....			882	1320	3030	1100	749	976	528	451	180	
29.....			905	1160	3230	1160	648	680	384	451	180	
30.....			960	1230	3610	1230	728	875	333	436	160	
31.....			880		4210		494	882		467		
Mean.....	*140	*190	726	1410	2680	2830	1000	580	659	853	278	
Run-off acre-feet.....	8610	10600	44600	83900	165000	168000	61500	35700	39200	52400	16500	

Unless otherwise noted, all discharges are in cubic feet per second. *Est.

Discharge of Navajo River at Edith for 1913.
Altitude, 7,100 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				160	331	348	152	46	32	45	40	45
2.....				140	313	368	135	46	32	44	40	45
3.....				135	265	328	129	43	32	184	44	45
4.....				130	253	331	135	41	34	184	48	45
5.....				150	262	316	114	43	66	145	45	45
6.....				200	283	298	102	43	43	87	43	45
7.....				253	331	286	87	41	36	82	43	45
8.....				224	322	286	84	38	36	72	43	45
9.....				170	328	286	77	36	48	67	43	45
10.....				238	335	271	102	35	40	64	43	45
11.....				328	341	292	91	34	38	58	43	40
12.....				316	344	268	80	41	48	57	43	40
13.....				344	358	216	73	122	41	58	45	40
14.....				407	344	235	67	53	39	55	45	40
15.....				427	331	268	66	46	36	55	45	40
16.....				424	322	238	66	43	34	55	45	40
17.....				394	313	216	61	43	32	55	45	40
18.....				361	322	238	60	53	32	52	45	40
19.....				328	328	268	60	52	32	49	45	40
20.....				328	304	241	67	48	32	45	45	40
21.....				328	292	216	77	50	32	45	52	40
22.....				301	286	200	87	61	44	45	50	40
23.....				280	325	200	108	55	48	45	48	40
24.....				233	348	206	116	48	48	45	45	40
25.....				198	331	189	97	43	55	43	53	40
26.....				222	368	184	87	38	52	43	52	40
27.....				235	401	170	77	38	48	42	48	40
28.....				271	391	162	67	36	45	40	48	40
29.....				298	368	235	55	35	52	40	45	40
30.....				313	364	173	52	36	53	40	45	40
31.....					364		50	37		40		40
Mean.....	*35.0	*36.0	*60.0	271	328	251	86.5	45.9	41.3	63.9	45.5	41.6
Run-off acre-feet.....	2150	1670	3690	16100	20200	14900	5320	2820	2460	3930	2710	2560

Unless otherwise noted, all discharges are in cubic feet per second. *Estimated from discharge measurements and information furnished by gage reader.

Discharge of Navajo River at Edith for 1914.
Altitude, 7,100 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			40	198	293	1120				82	95	
2.....			40	195	304	1040				82	91	
3.....			40	244	286	855				258	91	
4.....			40	282	286	792				535	91	
5.....			40	324	324	741				332	85	
6.....			60	389	332	685				230	82	
7.....			80	332	344	645				162	83	
8.....			100	356	398	505				145	83	
9.....			120	340	430	380				162	74	
10.....			140	360	577	425				138	61	
11.....			160	380	511	605				142	56	
12.....			180	400	542	645				135	59	
13.....			200	420	613	605				123	59	
14.....			230	416	577	570				93	59	
15.....			234	412	577	570				87	59	
16.....			254	384	481	570				85	58	
17.....			276	380	542	517				79	58	
18.....			244	356	542	505				75	58	
19.....			248	372	481	556				69	58	
20.....			218	398	481					69	51	
21.....			192	407	542					95	44	
22.....			170	416	613					180	44	
23.....			160	376	613					180	44	
24.....			155	364	891					142	50	
25.....			165	348	653					115	44	
26.....			192	348	613					113	49	
27.....			195	328	653					107	49	
28.....			212	328	637					107	43	
29.....			215	308	717					97	43	
30.....			190	290	774					93	43	
31.....			192		927					93		
Mean.....	*37.0	*35.0	161	348	534	649				142	62.1	
Run-off acre-feet.....	2280	1940	9900	20700	32800	24500				8730	3700	

Unless otherwise noted, all discharges are in cubic feet per second. *Est.

PIEDRA RIVER AT ARBOLES.

Location.—At the railroad bridge at Arboles, Colo., in sec. 16, T. 32 N., R. 5 W., 1 mile above the junction with the San Juan River. No tributaries between station and mouth.

Records Available.—June 19, 1895, to September 30, 1899; August 21, 1910, to November 30, 1914.

Drainage Area.—650 square miles.

Gage.—Chain gage.

Channel.—Practically permanent except during high water.

Discharge Measurements.—Made from the bridge during high water and by wading at ordinary stages.

Diversions.—There are court decrees for diversions of 18 second-feet from Piedra River in Colorado and 52 second-feet from Colorado tributaries.

Co-operation.—Station maintained in co-operation with the State Engineer of New Mexico and the United States Geological Survey in 1913. During 1914 station maintained by the State Engineer of New Mexico and the United States Geological Survey, by whom records were furnished.

DISCHARGE MEASUREMENTS OF PIEDRA RIVER AT ARBOLES, COLO.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 24*	C. J. Emerson.....	2.81	37.8	Jan. 26*	Emerson & Watrous..	2.82	70.6
Feb. 18*	Frank O'Brien.....	2.80	76.	Feb. 27	R. S. Watrous.....	1.91	118.
Mar. 12	Frank O'Brien.....	1.88	102.	Apr. 15	R. S. Watrous.....	4.77	1210
Apr. 1	Frank O'Brien.....	3.43	492.	Apr. 24	R. S. Watrous.....	4.47	980.
Apr. 26	Frank O'Brien.....	3.80	676.	May 31	R. S. Watrous.....	6.43	2420
May 13	Frank O'Brien.....	5.16	1380.	June 12	R. S. Watrous.....	5.85	1980
July 16	Frank O'Brien.....	2.08	124.	Aug. 16	R. S. Watrous.....	2.27	157
Aug. 2	Frank O'Brien.....	1.69	71.	Sept. 28	R. S. Watrous.....	2.20	154
Nov. 14	Frank O'Brien.....	2.20	135.	Nov. 2	R. S. Watrous.....	3.12	306
Dec. 18	C. J. Emerson.....	1.90	100.				

*Ice conditions.

LOS PINOS RIVER NEAR IGNACIO.

Location.—At the highway bridge near Ignacio Indian Agency, about sec. 8, T. 33 N., R. 7 W. New Mexico principal meridian, 1 mile north of Ignacio. Nearest tributary is a small stream that enters from the west 2 miles below.

Records Available.—April 22, 1899, to October 31, 1903; September 1, 1910, to November 30, 1914.

Drainage Area.—450 square miles.

Gage.—Chain gage.

Channel.—Shifting.

Discharge Measurements.—Made from the bridge during high water and by wading at ordinary stages.

Winter Flow.—No data.

Diversions.—A number of ditches divert water above the station for irrigation.

Co-operation.—Station maintained in 1913 in co-operation with the State Engineer of New Mexico. Maintained in 1914 by State Engineer of New Mexico in co-operation with the United States Geological Survey. Records for 1914 furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON LOS PINOS RIVER NEAR IGNACIO, COLO.

Date 1918	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 27*	Chas. E. Turner.....	2.00	58	Jan. 24*	Emerson and Watrous.....	1.40	80.2
Feb. 11*	Chas. E. Turner.....	2.00	77	Feb. 26	R. S. Watrous.....	1.47	133.
Mar. 10	F. O'Brien.....	1.22	94	Apr. 15	R. S. Watrous.....	3.01	835.
Apr. 9	F. O'Brien.....	2.12	428	Apr. 23	R. S. Watrous.....	3.18	838.
May 6	F. O'Brien.....	3.31	1080	June 1	R. S. Watrous.....	5.27	3860
June 9	F. O'Brien.....	3.04	753	Aug. 15	R. S. Watrous.....	2.11	129.
July 19	F. O'Brien.....	0.52	20.2	Sept. 28	R. S. Watrous.....	1.19	8.3
Sept. 2	F. O'Brien.....	0.68	24.8	Nov. 2	R. S. Watrous.....	2.52	295.
Oct. 15	F. O'Brien.....	1.95	212				
Dec. 17	C. J. Emerson.....	1.50	133.				

*Ice conditions.

ANIMAS RIVER AT DURANGO.

Location.—Located opposite the San Juan Water & Power Co.'s sub-station about one-fourth mile above Lightner Creek.

Records Available.—From June 20, 1901, to December 31, 1905; January 1, 1910, to December 31, 1910; January 1, 1912, to November 30, 1914, at a point above Lightner Creek; January 1, 1911, to December 31, 1911, below Lightner Creek.

Drainage Area.—694 square miles.

Gage.—Automatic recording gage.

Channel.—Liable to shift during high water.

Discharge Measurements.—Made from car and cable.

Winter Flow.—Little if any backwater from ice during the winter months.

Diversions.—Water is diverted above the station for irrigation.

Co-operation.—During 1913 station was maintained in co-operation with the United States Geological Survey and the State Engineer of New Mexico. In 1914 the station was maintained by the State Engineer of New Mexico and the United States Geological Survey, by whom the records were furnished.

DISCHARGE MEASUREMENTS OF ANIMAS RIVER AT DURANGO, COLO.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 28	Chas. E. Turner.....	1.10	180	Jan. 25*	Emerson & Watrous..	1.21	223
Feb. 24	Frank O'Brien.....	1.10	184	Feb. 25	R. S. Watrous.....	1.06	197
Mar. 20	Frank O'Brien.....	1.10	207	Apr. 17	R. S. Watrous.....	2.78	1280
Apr. 19	Frank O'Brien.....	2.34	927	Apr. 22	R. S. Watrous.....	2.88	1380
May 10	Frank O'Brien.....	3.34	2020	June 3	R. S. Watrous.....	6.20	7060
June 6	Frank O'Brien.....	3.44	2090	June 11	R. S. Watrous.....	4.50	3510
July 5	Frank O'Brien.....	2.52	1060	Aug. 3	R. S. Watrous.....	2.43	1000
Aug. 16	Frank O'Brien.....	1.47	340	Nov. 4	R. S. Watrous.....	1.58	412
Oct. 14	Frank O'Brien.....	1.78	533	Dec. 20	R. S. Watrous.....	1.24	264
Dec. 16	C. J. Emerson.....	1.17	235				

*Ice conditions.

Discharge of Piedra River at Arboles for 1913.
Drainage Area, 650 Square Miles. Altitude, 6,001 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			80	504	1050	1410	307	76	104	141	90	129
2.....			80	681	1100	1390	257	78	92	130	102	129
3.....			80	740	812	1390	160	71	94	223	117	100
4.....			80	552	886	1050	124	68	94	520	120	141
5.....			80	694	938	1080	120	73	106	370	114	112
6.....			80	1350	992	860	202	75	155	287	114	120
7.....			80	1460	1080	935	184	70	143	249	110	90
8.....			80	1130	1040	1050	162	62	138	216	108	88
9.....			80	943	1090	774	159	70	356	230	108	111
10.....			80	602	1130	831	204	67	184	206	102	99
11.....			90	788	1300	1360	168	71	188	100	96	83
12.....			102	1630	1390	1200	106	80	252	184	102	100
13.....			85	1790	1510	1220	105	90	133	216	102	97
14.....			84	1510	1160	1180	91	100	143	193	135	97
15.....			78	1390	1130	1070	129	108	133	184	120	97
16.....			79	1420	1040	944	124	111	127	172	124	102
17.....			92	1390	1090	922	123	257	123	168	111	98
18.....			82	1390	1220	850	112	78	116	150	109	100
19.....			86	1350	1280	886	116	90	110	199	129	100
20.....			82	764	1100	922	112	114	114	141	133	100
21.....			84	1220	1090	694	105	102	92	119	130	100
22.....			78	1080	1120	668	174	104	98	119	141	90
23.....			99	593	1130	544	174	92	146	122	151	90
24.....			86	836	1190	606	162	124	164	119	130	90
25.....			90	593	1230	435	110	114	123	112	126	90
26.....			88	663	1300	472	99	114	130	112	136	80
27.....			84	672	1420	399	91	88	110	100	127	80
28.....			82	726	1390	374	98	88	116	94	127	80
29.....			91	1270	1370	392	90	92	116	92	122	80
30.....			410	860	1420	367	86	80	116	94	117	70
31.....			580		1550		77	116		94		70
Mean.....	*40.0	*70.0	111	1020	1180	876	139	94.3	137	176	119	97.2
Run-off acre-feet.....	2460	3890	6820	60700	72600	52100	8550	5800	8160	10800	7080	5980

Unless otherwise noted, all discharges are in cubic feet per second.

*Estimated from measurements and climatological reports. Discharge estimated Mch. 1-23, Dec. 18-31.

Discharge of Piedra River at Arboles for 1914.
Drainage Area, 650 Square Miles. Altitude, 6,001 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			137	697	785	3660	679	497	242	271		337
2.....			149	715	810	3060	715	446	194	205		319
3.....			194	850	822	2480	670	458	183	692		302
4.....			194	938	835	1960	662	398	179	3360		302
5.....			198	885	860	1650	1100	398	159	3360		286
6.....			181	1210	938	1340	885	312	169	1580		271
7.....			198	1210	1050	1340	706	262	156	810		262
8.....			192	1100	1500	1060	565	286	150	706		256
9.....			237	895	1720	976	513	312	156	620		256
10.....			306	926	1860	1160	474	312	175	565		251
11.....			341	910	1900	1500	496	312	163	517		242
12.....			348	954	1600	1780	505	271	192	478		229
13.....			344	926	1530	1860	505	234	391	466		237
14.....			423	982	1460	1760	497	183	493	446		237
15.....			416	1140	1670	1780	505	201	670	427		222
16.....			513	1160	1500	1920	427	179	509	391		205
17.....			790	1310	1410	1680	486	163	565	391		205
18.....			943	1220	1390	1760	1250	149	217	384		205
19.....			987	1240	1240	1680	1800	137	201	409		205
20.....			1030	1160	1260	1620	1650	145	289	384		205
21.....			1020	1280	1420	1480	1220	224	540	355		177
22.....			524	1280	1560	1220	1090	229	405	599		183
23.....			615	1240	2560	1200	976	326	215	692		183
24.....			670	1090	2880	1080	607	187	219	532		190
25.....		109	733	992	2360	885	692	201	196	439		190
26.....		111	780	1050	2020	900	662	187	177	391		173
27.....		103	756	965	2030	800	586	234	173	420		159
28.....		123	770	860	1680	715	706	251	169	391		187
29.....			751	785	1780	670	724	205	158	384		163
30.....			728	820	1980	641	670	280	140	398		149
31.....			666		2390		607	280		373		
Mean.....	*70.0	* 85	520	1030	1570	1520	762	266	262	691		222
Run-off acre-feet.....	4300	4720	32000	61300	96500	90400	46900	16400	15600	42500		13400

Unless otherwise noted, all discharges are in cubic feet per second. *Est.

Discharge of Los Pinos River near Ignacio for 1913.
Drainage Area, 450 Square Miles. Altitude, 6,481 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				458	1030	1230	420	1.0	30	71	124	119
2.....				477	972	1210	366	.9	28	90	120	114
3.....				411	876	1130	304	.7	35	246	152	119
4.....				341	856	1060	256	.7	35	458	146	126
5.....				452	888	1010	225	.7	37	349	122	129
6.....				631	1060	880	233	.5	148	338	117	135
7.....				624	1110	848	180	.2	178	279	109	135
8.....				609	1140	808	160	.2	253	253	106	136
9.....				452	1090	768	103	.2	635	238	100	142
10.....			95	452	1200	720	116	.2	512	238	96	131
11.....			100	494	1360	976	117	.1	390	220	96	131
12.....			93	576	1420	884	79	.2	327	204	98	127
13.....			64	672	1470	784	59	1.6	259	211	112	119
14.....			59	740	1340	812	43	146	211	223	158	117
15.....			53	812	1240	860	31	20	173	211	138	126
16.....			54	868	1200	892	34	8.8	140	196	133	150
17.....			64	944	1290	836	87	11	120	184	122	136
18.....			82	956	1350	968	19	14	103	146	120	131
19.....			79	900	1380	964	22	17	104	127	127	119
20.....			87	860	1220	856	27	9.6	65	120	140	103
21.....			90	884	1220	780	40	8.0	51	111	142	92
22.....			92	840	1200	704	101	104	64	104	144	90
23.....			83	780	1400	692	228	63	119	108	117	90
24.....			75	756	1440	668	87	37	109	106	131	90
25.....			64	684	1380	614	51	42	89	129	164	90
26.....			54	676	1440	583	21	18	98	152	144	85
27.....			48	748	1500	556	9.6	13	77	136	127	85
28.....			69	872	1340	549	8.4	13	76	131	122	85
29.....			135	908	1310	628	5.1	12	70	124	116	85
30.....			220	996	1310	509	3.0	16	70	122	109	85
31.....			349		1170		2.0	22		120		85
Mean.....			95.9	692	1230	826	111	18.8	154	185	125	113
Run-off acre-feet.....			4180	41200	75000	49200	6820	1180	9160	11400	7440	6950

Unless otherwise noted, all discharges are in cubic feet per second.

Dec. 19-31 estimated from measurements.

Discharge of Los Pinos River at Ignacio for 1914.
Drainage Area, 450 Square Miles. Altitude, 6,481 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	82	104	137	431	447	3800	1850	313	80	9.7	317	
2	81	105	158	484	426	4120	1290	317	57	17	299	
3	78	95	160	581	398	3280	1130	320	50	118	289	
4	80	110	146	607	394	2790	1490	324	44	1930	282	
5	72	113	148	822	403	2280	2210	269	36	1020	269	
6	72	102	142	902	417	2010	1550	211	31	750	269	
7	72	84	150	902	507	1490	1440	162	28	587	263	
8	70	94	162	875	718	1170	1170	121	25	513	249	
9	87	105	180	758	1250	930	1120	112	21	495	237	
10	60	114	243	635	1590	1200	866	100	18	426	228	
11	65	131	260	806	1630	1860	822	185	17	372	226	
12	95	128	237	758	1540	2580	782	198	16	355	220	
13	74	131	249	678	1690	2990	1060	156	14	435	201	
14	85	133	295	806	1490	3110	1110	144	21	320	206	
15	80	131	421	884	1630	2760	960	126	20	295	185	
16	70	122	542	1030	1440	3150	790	111	17	286	171	
17	88	119	702	911	1380	2700	806	95	14	320	178	
18	95	122	814	798	1410	3080	1350	80	12	339	164	
19	95	126	790	702	1100	3080	2310	38	9.7	339	160	
20	80	121	649	830	1000	2810	2500	23	10	317	164	
21	60	114	536	839	1380	2550	2150	28	16	317	160	
22	70	152	436	866	1730	2340	1470	63	21	426	158	
23	95	128	473	857	2560	2220	1020	58	16	490	156	
24	85	118	495	686	2700	2030	790	42	14	447	152	
25	100	111	473	663	2430	1860	656	41	12	398	150	
26	85	121	484	702	2200	1630	628	42	12	385	158	
27	78	111	501	663	2420	1500	490	81	12	364	158	
28	85	122	501	614	2210	1520	484	67	9.1	368	158	
29	90		507	542	2500	1430	468	78	10	351	158	
30	92		530	468	2810	1320	403	118	9.4	335	162	
31	93		478		3340		364	119		320		
Mean	81.1	117	387	737	1520	2320	1130	134	22.4	430	205	
Run-off acre-feet	4990	6500	23800	43900	93500	138000	69500	8240	1330	26400	12200	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Animas River at Durango for 1913.
Drainage Area, 694 Square Miles. Altitude, 6,550 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1		180	106	630	1310	2920	1210	398	493	420	315	265
2		180	94	538	1220	3050	1190	392	512	450	315	265
3		180	119	468	1000	2760	1150	398	468	652	325	265
4		180	152	426	960	2490	1020	392	426	825	335	265
5		180	188	462	1100	2490	1100	392	426	802	315	265
6		180	188	552	1420	2000	936	387	512	720	315	247
7		180	192	630	1690	1920	888	370	652	652	310	247
8		180	212	526	1710	1920	840	365	780	615	290	247
9		162	212	432	1480	1580	780	370	1260	573	290	247
10		162	216	387	1920	1710	825	365	1180	545	290	247
11		162	216	381	2550	2050	880	365	952	519	290	247
12		162	216	474	2670	1900	780	398	825	512	290	247
13		162	200	698	2760	1630	735	376	735	512	310	247
14		162	162	1020	2070	1670	630	365	675	490	315	247
15		162	162	1280	1780	2100	615	345	630	480	315	247
16		162	166	1190	1950	2400	682	340	573	480	315	229
17		162	166	1280	2070	2460	802	340	512	480	295	224
18		162	204	1080	2320	2670	810	320	426	474	270	242
19		145	216	960	2370	2460	735	315	426	432	265	229
20		145	229	1020	1920	2550	825	315	426	420	275	212
21		145	208	1040	1670	2180	856	355	392	414	365	208
22		145	216	1000	1900	1960	880	426	376	392	265	204
23		130	204	920	2580	1780	976	409	480	392	265	200
24		145	166	765	2810	1710	920	426	409	370	265	195
25		104	166	615	2760	1650	802	519	365	365	265	190
26		130	145	630	3460	1560	675	468	365	345	265	185
27		104	170	765	3700	1560	601	420	365	325	265	180
28	180	116	208	936	3360	1560	532	398	370	315	265	175
29			220	1170	3120	1630	480	398	409	315	265	170
30			285	1340	3250	1380	444	450	420	315	265	163
31			398		2890		420	480		315		160
Mean	*150	162	194	787	2190	2060	807	389	561	481	290	225
Run-off acre-feet	9220	9000	11900	46800	135000	123000	49600	23900	33400	39600	17300	13800

Unless otherwise noted, all discharges are in cubic feet per second. *Estimated from measurements.

Discharge of Animas River at Durango for 1914.
Drainage Area, 694 Square Miles. Altitude, 6,550 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	189	189	222	505	976	6910	2590	1230	523	348	475	
2.....	189	189	233	535	945	8330	2560	1040	505	370	475	
3.....	205	189	240	587	870	6740	2390	976	464	684	448	
4.....	205	189	248	684	922	5750	2780	960	420	2360	410	
5.....	189	173	272	885	1080	4550	3700	870	420	1190	395	
6.....	189	158	289	1040	1210	3880	2880	825	380	885	395	
7.....	199	158	302	1000	1370	3010	2880	740	370	775	380	
8.....	205	158	316	900	1810	2320	2390	796	361	740	370	
9.....	205	158	334	810	2670	2040	2100	922	348	670	370	
10.....	205	173	370	775	3520	2530	2020	775	370	614	370	
11.....	205	179	395	754	3480	3700	2040	740	361	587	361	
12.....	205	173	380	740	3200	4750	2160	684	370	568	348	
13.....	205	173	420	825	3380	5750	2420	614	370	568	348	
14.....	205	158	464	922	3200	6210	2980	587	380	535	348	
15.....	205	158	487	1120	3170	5380	2420	568	348	505	334	
16.....	248	144	587	1340	2820	6110	2040	523	361	505	325	
17.....	280	167	726	1280	2730	5230	1810	505	361	523	325	
18.....	260	222	870	1080	2700	5710	2140	475	325	535	316	
19.....	250	248	900	1100	2590	5750	2880	431	325	523	280	
20.....	240	240	825	1300	2730	5600	2930	448	348	487	280	
21.....	222	222	726	1410	3260	4960	2390	464	380	505	280	
22.....	205	212	635	1370	4070	4490	1940	475	395	656	280	
23.....	205	205	600	1280	5380	4110	1610	523	395	635	280	
24.....	189	189	600	1190	5820	3790	1410	505	370	614	280	
25.....	189	189	548	1120	5020	3260	1370	475	361	568	280	
26.....	189	189	523	1280	4300	3200	1320	464	348	568	280	
27.....	202	199	523	1190	4850	3090	1280	505	348	568	280	
28.....	219	212	535	1040	4410	2880	1300	523	334	535	280	
29.....	205		505	1020	4260	2930	1320	523	325	535	280	
30.....	189		523	1020	5100	2850	1280	587	325	523	280	
31.....	189		505		6340		1260	548		523		
Mean.....	209	186	487	1000	3170	4530	2150	655	376	652	338	
Run-off acre-feet.....	12900	10300	29900	59500	195000	270000	132000	40300	22400	40100	20100	

Unless otherwise noted, all discharges are in cubic feet per second.

HERMOSA CREEK NEAR HERMOSA.

Location.—In sec. 34, T. 37 N., R. 9 W. New Mexico principal meridian, in the San Juan National Forest, $1\frac{1}{2}$ miles above Hermosa postoffice, 200 yards below the mouth of Buck Creek, $1\frac{1}{2}$ miles above the mouth of Hermosa Creek. No tributaries between the station and mouth.

Records Available.—November 28, 1911, to September 25, 1914.

Drainage Area.—172 square miles.

Gage.—Vertical staff.

Channel.—Practically permanent.

Discharge Measurements.—Made from a bridge 1 mile below station during high water and by wading at ordinary stages.

Winter Flow.—So far as known, ice causes little if any back-water at this station.

Diversions.—The station is above all diversions.

Accuracy.—Owing to infrequency of gage readings, estimates of monthly discharge have not been made. Daily discharge for days when gage height was read may be considered good for stages below about 1,200 second-feet.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON HERMOSA CREEK NEAR HERMOSA

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
May 12	F. O'Brien.....	3.50	524	June 2	R. S. Watrous.....	4.40	1240
June 4	F. O'Brien.....	2.95	23.8	Aug. 14	R. S. Watrous.....	2.14	58
Sept. 7	F. O'Brien.....	1.95	52.				
Nov. 7	F. O'Brien.....	1.75	34.				

Discharge of Hermosa Creek near Hermosa for 1913.
Drainage Area, 172 Square Miles. Altitude, 6,633 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....									46			36
2.....									49	76	35	
3.....						265		42				
4.....						249		41			37	
5.....						233		40	42	97		
6.....						204		37	79	78		
7.....					322	191			86	57	33	
8.....					367	190			106			
9.....					367	201	68		114			
10.....					418	204	69					33
11.....				106	475	322	65					
12.....				106	505		67					
13.....				218	475				57			
14.....									50			
15.....												
16.....				249								
17.....				249				33				33
18.....				367	418							
19.....				249	391			31		33		
20.....					391		82	34				
21.....					391			37	47			
22.....				249	322			42				
23.....				233	367	144		46			37	
24.....				218				48				
25.....				191						29	33	
26.....				218						26	35	
27.....				283					48			
28.....				301					46	33		
29.....				343	367				45	35	33	
30.....				475	367		46	42	46	34	35	
31.....					367		46	43				29
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Hermosa Creek near Hermosa for 1914.
Drainage Area, 172 Square Miles. Altitude, 6,633 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					391							
2.....			34		367	1160						
3.....				191	301			158				
4.....				204	367			168				
5.....	26				391		198					
6.....	27				535							
7.....					505							
8.....							229					
9.....				233			229	94				
10.....				249		565						
11.....				233	1250				38			
12.....				218		700	145					
13.....			114	233		808	145					
14.....			154	233		665		61				
15.....				343				61				
16.....						598						
17.....						598	42					
18.....		33		391					38			
19.....	29		218			598			38			
20.....				565		630						
21.....			204			535			38			
22.....									38			
23.....				445		343		54				
24.....			178	391								
25.....			154	418					38			
26.....		34				343						
27.....								48				
28.....		33		391								
29.....			144	391			145					
30.....			154	391								
31.....												
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

SOUTH PLATTE DRAINAGE

SOUTH FORK OF SOUTH PLATTE RIVER AT LAKE GEORGE.

Location.—At highway bridge in sec. 19, T. 12 S., R. 71 W., one-fourth mile below Lake George, in the Pike National Forest, about 2 miles above the mouth of Caylor Gulch; no tributary between the outlet of the lake and the station.

Records Available.—October 22, 1910, to November 28, 1914.

Drainage Area.—980 Square Miles.

Gage.—Automatic recording gage installed in 1911, reading to the same datum as the original staff gage.

Channel.—Conditions in the channel will remain unchanged as long as the control for the station—a 2-foot timber-crib dam 50 feet below the gage—remains permanent.

Discharge Measurements.—Made from bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes backwater during the winter months and measurements are made to determine the flow.

Artificial Control.—The discharge at the station is controlled naturally to some extent by the regulating effect of Lake George, which has an area of one-half square mile.

Diversions.—There are court decrees for diversions of 1,076 second-feet from the South Fork above this station and for diversions of 1,816 second-feet from tributaries entering above.

Accuracy.—Results are considered fair.

Co-operation.—Station maintained in co-operation with United States Forest Service and the United States Geological Survey.

DISCHARGE MEASUREMENTS ON SOUTH FORK SOUTH PLATTE RIVER AT LAKE GEORGE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 16	M. E. Bunger.....	1.65	37.6	Jan. 20	R. H. Fletcher.....	1.24	4.9
June 3	R. H. Fletcher.....	2.06	122	May 12	Thos. Grieve, Jr.....	2.00	133
June 4	R. H. Fletcher.....	1.92	85	June 7	Robert Follansbee....	2.84	495
June 4	R. H. Fletcher.....	1.92	86	Aug. 26	R. H. Fletcher.....	2.68	453
Nov. 5	R. H. Fletcher.....	1.68	48	Oct. 9	R. H. Fletcher.....	2.06	177

SOUTH PLATTE RIVER AT SOUTH PLATTE.

Location.—In sec. 25, T. 7 S., R. 70 W., in the Pike National Forest, three-fourths of a mile east of South Platte; about 300 feet below junction of the North and South forks; no tributary between the forks and the station, and none for several miles below.

Records Available.—March 28, 1902, to November 30, 1914. Records at Platte Canon and at Deansbury, a few miles below, extend back to 1887 with the exception of the years 1893 and

1894. The earlier records, 1887-1892, were taken by the State Engineer, and the records from 1895 to 1898 were taken under the direction of the Denver Power & Irrigation Co.

Drainage Area.—2,610 square miles.

Gage.—An automatic recording gage installed March 14, 1910. From March 28, 1902, to May 7, 1905, the gage was at the highway bridge. On the latter date it was moved to its present site, 150 feet below. It is probable that the new gage read to a somewhat different datum. The recording gage is referred to the datum of the gage established in 1905.

Channel.—Shifting.

Discharge Measurements.—Made from car and cable during high water, and by wading at low stages.

Winter Flow.—Ice causes backwater during a portion of the winter months and measurements are made to determine the flow.

Artificial Control.—The flow is controlled to a certain extent by the Cheesman Reservoir, which is on the South Fork about 20 miles above the forks.

Diversions.—No water is diverted between this station and that on the South Fork at South Platte, nor between this station and that on the North Fork at Cassells.

Accuracy.—Although the channel is shifting, sufficient discharge measurements have been obtained to enable fair estimates of discharge to be made.

Co-operation.—Station maintained in co-operation with the United States Geological Survey.

DISCHARGE MEASUREMENTS ON SOUTH PLATTE RIVER AT SOUTH PLATTE.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
Apr. 1	R. H. Fletcher.....	2.00	180	Jan. 12*	M. E. Bunger.....	2.69	126
May 15	Raymond Richards...	2.84	540	Jan. 21*	M. E. Bunger.....	3.35	217
June 16	R. H. Fletcher.....	3.57	825	Feb. 5	M. E. Bunger.....	2.10	160
Aug. 8	R. H. Fletcher.....	2.68	454	Feb. 24	M. E. Bunger.....	1.70	120
Sept. 29	Robert Follansbee....	2.46	351	May 4	Thos. Grieve, Jr.....	5.48	1570
Dec. 5*	R. H. Fletcher.....	2.92	383	May 8	Robert Follansbee...	5.60	1640
Dec. 29*	R. H. Fletcher.....	2.20	139	May 28	R. H. Fletcher.....	6.90	2900
				July 7	D. L. Bundy.....	4.35	1410
				July 31	M. D. Anderson.....	6.55	3040
				Aug. 21	Robert Follansbee...	3.98	1120
				Oct. 2	R. H. Fletcher.....	2.83	513
				Oct. 24	R. H. Fletcher.....	2.84	489

*Ice conditions.

SOUTH PLATTE RIVER AT DENVER.

Location.—At the Sixteenth Street viaduct in Denver; 500 feet below mouth of Cherry Creek.

Records Available.—May 7, 1895, to November 30, 1914.

Drainage Area.—3,840 square miles.

Gage.—Automatic recording gage installed August 12, 1909. The original gage was located at the Twenty-third Street viaduct. In July, 1895, a new gage was installed at the Fifteenth Street bridge. In August, 1898, an inclined staff gage was placed on the opposite side of the river, but referred to the same datum. This gage was destroyed by high water in June, 1900, and for the remainder of the year the gage installed in July, 1895, was used. This gage was stolen, and a new one was placed between the Fifteenth Street and Sixteenth Street bridges May 15, 1901, reading to the same datum. This gage also was stolen and was replaced on June 10, 1903, by a vertical staff near the same place and having the same datum. Farmers and Gardeners Ditch dam below station washed out in July, 1912, and gage replaced at different datum in 1913.

Channel.—Shifting.

Discharge Measurements.—Made from the Fifteenth Street bridge during high water and by wading at low-water stages.

Winter Flow.—The flow at this point is seldom affected by ice.

Diversions.—Between this station and the one at South Platte there are court decrees for diversion from South Platte River of 2,226 second-feet and from intervening tributaries of 1,466 second-feet.

DISCHARGE MEASUREMENTS ON SOUTH PLATTE RIVER AT DENVER.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 21	Bunger & Hesmalthalch		130	Feb. 13	M. E. Bunger.....	2.80	337
Feb. 10	Bunger & Hesmalthalch		138	Mch. 30	Bundy & Grieve.....	4.12	848
Apr. 22	Bunger and Bundy...	4.60	1185	Apr. 6	Bundy & Grieve.....	5.00	1661
Apr. 29	Bunger and Bundy...	4.20	814	May 5	Thos. Grieve, Jr.....	5.28	2858
May 5	Bunger & Crisman....	3.90	660	May 22	Thos. Grieve, Jr.....	6.32	3665
May 23	M. E. Bunger.....	2.82	187	May 25	C. C. Hesmalthalch ..	6.29	3774
May 24	M. E. Bunger.....	2.75	170	June 17	D. L. Bundy & Wood- hall.....	5.10	2846
July 2	Bunger & Hesmalthalch	2.90	319	July 1	Grieve & Hesmalthalch	2.40	582
July 25	Bunger & Hesmalthalch	4.60	1303	July 16	Thos. Grieve, Jr.....	4.08	1553
Oct. 2	D. L. Bundy.....	3.20	285	Aug. 22	D. L. Bundy.....	2.93	940
Nov. 11	Thos. Grieve, Jr.....	2.78	233	Sept. 17	D. L. Bundy.....	1.80	348
Nov. 12	M. E. Bunger.....	2.70	220	Nov. 27	C. C. Hesmalthalch ...	1.90	283

Discharge of South Platte River at Lake George for 1913.
Drainage Area, 980 Square Miles. Altitude, 7,963 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						65	115	315	249	140	57	26
2.....						103	103	292	249	126	49	26
3.....						97	65	270	249	126	41	26
4.....						72	65	270	249	126	52	26
5.....						74	74	270	227	111	52	26
6.....						74	83	270	227	93	26	26
7.....						65	83	227	227	83	26	26
8.....						83	74	171	292	74	26	26
9.....						140	74	154	365	65	30	26
10.....						171	93	154	415	65	33	26
11.....						208	103	154	365	65	37	26
12.....						292	115	227	365	65	41	26
13.....						315	103	279	315	52	52	26
14.....						115	83	340	315	58	52	26
15.....						74	58	249	340	58	43	26
16.....						74	52	208	340	58	33	26
17.....						83	83	227	340	50	26	26
18.....						74	292	227	270	41	31	26
19.....						208	208	227	292	41	36	26
20.....						292	292	249	315	45	41	26
21.....						249	315	292	227	45	38	26
22.....						236	365	315	154	45	35	26
23.....						219	470	365	154	41	32	26
24.....						219	645	315	126	37	29	26
25.....						196	525	340	103	33	26	26
26.....						188	443	315	103	29	26	26
27.....						181	415	292	103	26	26	26
28.....						154	415	292	103	26	26	26
29.....						103	415	315	126	26	26	26
30.....						126	365	340	154	33	26	26
31.....							315	270		65		26
Mean.....						152	223	266	245	63	36	26
Run-off acre-feet.....						9040	13700	16400	14600	3900	2140	1600

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of South Fork of South Platte River at Lake George for 1914.

Drainage Area, 980 Square Miles. Altitude, 7,963 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			25	190	132	860	261	935	282			
2.....			25	204	146	930		935	272		158	
3.....			25	217	160	930		954	261		152	
4.....			25	120	146	825		972	217			
5.....			30	172	146	880		972	207	190	152	
6.....			30	224	175	930	515	972	207			
7.....			30	222	154	500	548	972	207			
8.....			34	219	132	415	428	935	207			
9.....			38	217	120	428	445	774	198		146	
10.....			41	192	107	442	463	612	190			
11.....			55	166	117	471	480	548	190			
12.....			69	136	127	500	498	532	195			
13.....			75	107	132	560	515	515	201			
14.....			80	190	132	860		455	207	190	143	
15.....			86	224	122	930		350	198			
16.....			86	132	184	1080		335	190	174	50	
17.....			86	126	224	1470	800	320	190	158	48	
18.....			96	120	244	645		303	190		50	
19.....			86	160	301	515		303	190			
20.....			69	132	382	495		303	190			
21.....			82	310	371	475		303	190		65	
22.....			95	287	360	455		311	190	158		
23.....			107	264	335	428		318	190			
24.....			96	184	500	400		326	190			
25.....			86	132	470	350		303	190			
26.....			91	160	530	323		444	190	174		
27.....			96	120	500	296		312	190		49	
28.....			120	103	470	269	750	297	190		62	
29.....			132	86	530	242	935	282	190			
30.....			107	78	560	254	972	282	190			
31.....			160		720		972	282				
Mean.....			73	173	282	605	613	531	203	174	97.7	
Run-off acre-feet.....			4490	10300	17300	36000	17000	32600	12100	*10700	*58100	

Unless otherwise noted, all discharges are in cubic feet per second. *Acre-ft. for full month.

Note: High water of June 17 caused by breaking of Lake George dam. Crest about 6 ft. on gage.

Discharge of South Platte River at South Platte for 1913.
Drainage Area, 2,610 Square Miles. Altitude, 6,097 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				190	633	633	719	547	421	442	241	135
2.....				200	654	741	762	547	442	505	223	164
3.....				164	590	676	848	526	442	569	280	145
4.....				117	526	676	805	505	442	547	319	108
5.....				140	484	633	762	505	463	463	260	339
6.....				152	569	719	762	547	442	400	241	395
7.....				152	633	891	719	510	400	400	241	354
8.....				140	569	934	676	484	442	380	206	314
9.....				106	547	977	676	442	442	359	206	276
10.....				95	569	934	676	526	463	339	190	250
11.....				117	612	1020	676	547	590	319	206	160
12.....				129	633	1020	719	547	655	319	206	160
13.....				164	676	1068	505	526	590	870	223	220
14.....				280	590	1020	463	505	569	299	241	145
15.....				633	505	891	463	505	590	223	206	117
16.....				719	505	827	463	526	590	223	177	117
17.....				741	526	1100	569	762	547	241	190	124
18.....				655	547	1280	633	547	484	206	190	128
19.....				612	569	1450	805	762	421	206	223	117
20.....				633	526	1380	848	719	319	206	241	95
21.....				762	484	762	934	280	299	223	280	95
22.....				676	463	921	891	719	299	223	206	95
23.....				633	526	1080	977	848	280	223	152	140
24.....				505	569	1060	1110	590	280	260	129	140
25.....				505	526	999	1150	569	280	280	177	140
26.....				484	612	999	1150	547	280	241	169	152
27.....				484	633	999	1110	526	280	223	177	152
28.....				526	569	956	934	484	299	223	190	117
29.....				569	633	891	633	421	359	177	223	140
30.....				612	633	762	590	400	359	206	145	140
31.....					633		569	400		241		140
Mean.....	*108	* 83	* 90	397	572	943	761	544	426	324	212	171
Run-off acre-feet.....	6640	4610	5530	23600	35200	56100	46800	33400	25300	19900	12800	10500

Unless otherwise noted, all discharges are in cubic feet per second. *Estimated.

Discharge of South Platte River at South Platte for 1914.
Drainage Area, 2,610 Square Miles. Altitude, 6,097 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	195	117	126	385	1360	2950	1230	2910	912	505	463	
2.....	159	160	128	405	1450	3140	1300	2960	848	526	568	
3.....	181	156	128	488	1620	3070	1450	3000	826	526	977	
4.....	152	153	102	840	1540	2910	1410	2920	784	526	442	
5.....	162	160	108	1180	1580	2780	1390	2760	762	505	360	
6.....	173	146	113	1120	1580	2660	1390	2610	740	484	360	
7.....	178	142	122	977	1620	2520	1380	2470	740	484	360	
8.....	168	143	117	784	1620	2420	1330	2300	698	484	339	
9.....	183	159	128	891	1730	2280	1300	2240	676	526	339	
10.....	168	166	128	870	1770	2230	1220	2110	654	526	319	
11.....	148	154	104	826	1840	2170	1220	1950	633	505	334	
12.....	128	164	104	826	1890	2100	1260	1850	612	505	319	
13.....	140	159	133	848	1960	2130	1340	1650	612	612	360	
14.....	165	163	157	805	1960	2100	1540	1570	676	568	380	
15.....	165	154	177	891	2060	2160	1690	1500	676	547	319	
16.....	180	166	206	870	2120	2300	1760	1360	676	590	339	
17.....	195	183	242	719	2260	2500	1760	1300	654	568	319	
18.....	210	128	280	900	2260	2310	1990	1210	654	526	140	
19.....	210	128	290	1000	2380	2020	2120	1110	633	463	152	
20.....	202	135	299	1100	2470	1960	2240	1110	590	400	280	
21.....	202	136	280	1240	2630	1860	2120	1110	547	400	190	
22.....	202	136	280	1170	2750	1710	2280	1110	547	484	190	
23.....	202	128	242	1130	2920	1690	2440	1110	526	568	177	
24.....	202	117	299	1060	2970	1590	2540	1080	526	547	177	
25.....	202	106	260	1040	3050	1530	2400	998	547	526	177	
26.....	202	106	319	1250	2920	1490	2300	1040	526	526	190	
27.....	202	113	319	1100	2900	1360	2290	1170	505	505	190	
28.....	202	122	339	1280	2860	1300	2480	1040	484	505	190	
29.....	152		339	1200	2840	1230	2640	998	484	505	190	
30.....	160		319	1320	2960	1190	2780	977	505	526	190	
31.....	165		350		2960		2900	977		463		
Mean.....	179	143	211	950	2220	2120	1850	1690	642	514	311	
Run-off acre-feet.....	11000	7940	13000	56500	136000	126000	114000	104000	38200	31600	18500	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of South Platte River at Denver for 1913.
Drainage Area, 3,840 Square Miles. Altitude, 5,240 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					995	462	337	137	296			
2.....					995	621	226	116	226	269	360	
3.....					958	438	278	242	316			
4.....					845	371	296	242	358			
5.....					650	350	316	242	278	341	280	
6.....					621	331	278	170	260		300	310
7.....					621	775	226	170	260			310
8.....					538	810	182	182	316	253		
9.....					538	710	210	158	316		350	275
10.....					538	775	210	260	337	285		
11.....					538	710	158	404	337		230	
12.....					438	810	158	358	482	381	215	215
13.....					438	1080	158	296	381	330	190	
14.....					486	810	158	242	242			215
15.....					438	486	158	210	226	160		
16.....					350	538	278	196	242	145	190	
17.....					294	538	278	170	210			
18.....					276	1040	635	540	182			
19.....					331	1200	1120	316	158	170		
20.....					312	1160	455	182	158		170	
21.....					276	1680	510	196	137			170
22.....					242	780	455	510	98	190		
23.....					148	705	635	337			170	
24.....					170	780	570	337	285	150		
25.....					196	705	1400	316	225		170	
26.....					158	510	940	358	113	210		
27.....					182	404	455	337	95		155	
28.....					276	404	455	316	95			215
29.....					392	381	316	296	95	345		
30.....					438	358	242	381	80	280	145	
31.....					486		510	278		255		
Mean.....					457	691	407	274	235	251	225	244
Run-off acre-feet.....					28100	41100	25000	16800	*14000	*15400	*13400	*15000

Unless otherwise noted, all discharges are in cubic feet per second. *Figures for full month.

Discharge of South Platte River at Denver for 1914.
Drainage Area, 3,840 Square Miles. Altitude, 5,240 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	315	375	365	835	2700	2890	585	5120	800	315	470	
2.....	315	375	345	742	2720	3210	625	4760	750	315	530	
3.....	315	375	315	985	2920	3640	670	6270	705	295	900	
4.....	315	315	345	1150	2860	3800	705	6270	710	290	900	
5.....	315	335	300	1500	2880	3480	722	5490	590	300	400	
6.....	325	315	315	1660	2680	3360	640	4420	550	300	240	
7.....	345	315	325	1120	2550	2800	655	3820	530	300	240	
8.....	325	292	825	1100	2580	2250	598	3390	510	295	298	
9.....	325	278	325	1210	2700	1840	550	2850	500	295	260	
10.....	315	285	325	1190	2800	1470	525	2925	500	295	260	
11.....	300	285	325	1080	3000	1510	510	2850	475	270	260	
12.....	315	292	315	1180	3380	1650	495	2220	440	315	260	
13.....	325	285	335	1300	3060	1260	705	1900	420	340	272	
14.....	345	300	345	1320	2500	1030	705	1640	405	315	285	
15.....	335	355	530	1730	2380	1320	930	1470	380	330	272	
16.....	335	460	530	2000	2260	2640	1470	1390	360	350	260	
17.....	335	430	770	2840	2280	2850	1280	1040	350	350	250	
18.....	345	375	660	3300	2310	3820	780	1040	370	330	272	
19.....	345	355	610	2290	2320	2280	1960	995	322	330	240	
20.....	335	375	570	2300	2200	2280	2090	945	300	315	260	
21.....	355	460	530	2270	3160	1570	2280	995	330	315	260	
22.....	388	530	512	2520	4030	1380	2420	930	300	315	240	
23.....	388	512	530	3120	3930	1380	2560	1040	295	330	240	
24.....	388	400	530	3240	3830	1020	2850	910	295	675	260	
25.....	388	375	570	2760	3540	875	2780	880	315	515	285	
26.....	375	335	570	2480	3320	802	2420	960	308	500	285	
27.....	355	315	770	2980	2880	655	2160	1010	300	515	285	
28.....	355	335	948	2690	3020	610	1960	1350	300	515	310	
29.....	355		835	2270	2900	560	2500	970	295	515	310	
30.....	355		835	2290	2800	550	3150	780	300	515	285	
31.....	375		910		2840		4100	820		500		
Mean.....	342	358	510	1920	2880	1960	1500	2305	434	370	330	
Run-off acre-feet.....	21000	19900	31400	114000	177000	117000	92200	142000	25800	22800	19600	

Unless otherwise noted, all discharges are in cubic feet per second.

SOUTH PLATTE RIVER NEAR KERSEY.

Location.—At highway bridge in sec. 9, T. 5 N., R. 64 W., $1\frac{3}{4}$ miles north of Kersey, 2 miles below the entrance of Lone Tree Creek, an intermittent stream, and 3 miles below the mouth of Cache la Poudre River.

Records Available.—April 27, 1901, to October 31, 1903; March 1, 1905, to November 30, 1912; January 1 to November 30, 1914.

Drainage Area.—9,500 square miles.

Gage.—A chain gage, placed in the fall of 1906 in each of the two channels in which the river flows. These gages were referred to a datum slightly different from that of the original gage, but have remained permanent since. The original gage, a vertical staff, was used until June 14, 1906, when the observer moved it 20 feet south. This gage was placed 0.30 foot too high, and all readings were corrected by that amount until the chain gages were placed in position.

Channel.—Shifting.

Discharge Measurements.—Made from the bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes slight backwater for a few days during the winter.

Diversions.—Between this station and Denver there are court decrees for diversions of 3,764 second-feet from the South Platte, and 17,000 second-feet from intervening tributaries, besides numerous flood-water decrees.

Accuracy.—Although the channel is shifting, sufficient discharge measurements have been obtained to enable estimates of flow to be made which may be regarded as reliable for 1914. Sufficient measurements were not made in 1913 to estimate daily discharges.

DISCHARGE MEASUREMENTS OF SOUTH PLATTE RIVER AT KERSEY.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
CHANNEL NO. 1				CHANNEL NO. 1			
Mar. 20	M. E. Bungler.....	3.20	378	Jan. 15	M. E. Bungler.....	3.95	652
May 3	M. E. Bungler.....	3.85	476	Feb. 2	M. E. Bungler.....	3.92	582
June 17	M. E. Bungler.....	2.35	58	Feb. 17	M. E. Bungler.....	4.00	513
Nov. 15	Grieve & Hezmalhalch	3.10	275	Feb. 27	M. E. Bungler.....	4.10	579
Nov. 19	Bunger & Crisman....	3.00	258	Mar. 23	Grieve & Bundy.....	3.75	506
CHANNEL NO. 2				Apr. 3	Grieve & Bundy.....	4.40	753
Mar. 20	M. E. Bungler.....	3.30	422	May 6	D. L. Bundy.....	7.45	7064*
May 3	M. E. Bungler.....	4.0	862	May 29	Grieve & Hezmalhalch	7.70	9133*
June 20	M. E. Bungler.....	2.05	57	June 20	Thos. Grieve, Jr.....	7.15	5937*
Nov. 15	Grieve & Hezmalhalch	3.20	288	July 10	Thos. Grieve, Jr.....	3.58	274
Nov. 19	Bunger & Crisman....	3.15	278	Aug. 6	D. L. Bundy.....	6.00	4521*

Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Aug. 27	Thos. Grieve, Jr.....	3.70	759
Oct. 16	C. C. Hesmahlch ...	3.85	421
CHANNEL NO. 2			
Jan. 15	M. E. Bunger.....	4.02	631
Feb. 2	M. E. Bunger.....	3.95	621
Feb. 17	M. E. Bunger.....	4.02	646
Feb. 27	M. E. Bunger.....	4.10	732
Mar. 23	Bundy & Grieve.....	3.90	653
Apr. 3	Bundy & Grieve.....	4.30	1088
May 6	D. L. Bundy.....	7.45	7064*
May 29	Grieve & Hesmahlch	7.70	9133*
June 20	Thos. Grieve, Jr.....	7.30	5937*
July 10		Dry
Aug. 6	D. L. Bundy.....	6.00	4521*
Aug. 27	Thos. Grieve, Jr.....	No water under	
Gage No. 2			
Oct. 16	C. C. Hesmahlch ...	3.90	383

*One channel. Total flow.

SOUTH PLATTE RIVER AT JULESBURG.

Location.—At highway bridge 1 mile south of Julesburg, about sec. 33, T. 12 N., R. 44 W. No important tributaries between the station and the Colorado-Nebraska State line, 1 mile distant. All the tributaries for 100 miles or more above the station are intermittent.

Records Available.—April 2, 1902, to November 16, 1906; May 12, 1908, to November 30, 1912; April 8 to November 30, 1914.

Drainage Area.—20,600 square miles.

Gage.—When the station was re-established in 1908 a gage was placed in each of the two main channels; both gages read practically the same as the original gage on the lower bridge 2,000 feet below the present site. The datum of the gages has remained unchanged.

Channel.—Shifting.

Discharge Measurements.—Made from the pile bridge during high water, and by wading at low-water stages.

Winter Flow.—Ice causes backwater during the winter months and measurements are made to determine the flow.

Diversions.—Between Kersey and Julesburg there are court decrees for diversions of 5,316 second-feet from the South Platte, and diversions of 1,240 second-feet from intervening tributaries,

including Lodgepole Creek in Wyoming and Nebraska and Crow Creek in Wyoming, besides numerous flood decrees. Between the State line and the mouth diversions of 206 second-feet from the South Platte have been granted in Nebraska.

Accuracy.—Although the channel is shifting, sufficient measurements have been made to give fairly reliable discharge estimates.

Co-operation.—During 1914 this station was maintained in co-operation with the State Engineer of Nebraska.

DISCHARGE MEASUREMENTS ON THE SOUTH PLATTE RIVER AT JULESBURG.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1914			
May 5	D. L. Bundy.....	3.62	5072
May 16	C. J. McNamara.....	3.75	6796
June 27	C. J. McNamara.....	2.75	1760
June 30	A. F. Hewitt.....	2.35	1042
Aug. 5	F. Cogswell.....	0.85	78
Sept. 11	Robt. Follansbee.....	1.40	345
Sept. 28	C. J. McNamara.....	1.20	296

TARRYALL CREEK NEAR JEFFERSON.

Location.—At Robbins ranch, in sec. 6, T. 9 S., R. 74 W., about 10 miles southeast of Jefferson. Rock Creek enters half a mile below.

Records Available.—June 27 to November 30, 1914. From October 18, 1910, to June 28, 1911, a station was maintained within a quarter of a mile of this point, but the relation between the two gages is not known.

Drainage Area.—Not measured.

Gage.—Vertical staff.

Channel.—Data too meager to determine.

Discharge Measurements.—Made by wading.

Winter Flow.—Ice causes backwater during the winter months and the records are discontinued.

Diversions.—There are court decrees for diversions of 314 second-feet from Tarryall Creek above the station and for 926 second-feet from tributaries entering above.

Accuracy.—Results fair.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the Tarryall Canal & Reservoir Co. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON TARRYALL CREEK NEAR JEFFERSON.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 15	Robert Follansbee.....	0.92	120	May 5	Robert Follansbee.....	0.71	110
Apr. 24	R. H. Fletcher.....	.42	49	May 6	Robert Follansbee.....	0.48	73
Apr. 25	R. H. Fletcher.....	.22	29	June 4	Robert Follansbee.....	2.09	339
July 23	Robert Follansbee.....	.82	116	June 5	Robert Follansbee.....	1.87	292
				Aug. 20	Robert Follansbee.....	0.71	72

Discharge of South Platte River at Kersey for 1914.
Drainage Area, 9,500 Square Miles. Altitude, 4,612 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	1830	1360	1560	1560	5600	10500	325	2630	715	540	1110	
2	1420	1180	2000	1650	8180	12200	290	3130	690	540	1160	
3	1260	1130	1920	1830	9280	14200	310	3500	690	570	1210	
4	1220	1100	1560	1750	8900	15400	290	3920	640	585	1210	
5	1180	1100	1560	1680	7850	14600	355	4770	620	620	1430	
6	1180	2000	1560	2100	6970	12200	570	4370	585	640	1160	
7	1220	2500	1480	2500	6970	9280	540	3830	570	665	1020	
8	1220	2830	1480	2950	6740	6740	460	2980	555	640	940	
9	1180	2600	1650	2950	6500	5150	370	2360	540	640	940	
10	1220	2830	1650	2520	6500	3550	290	2090	540	640	905	
11	1120	2600	1560	2420	6970	2410	250	2000	530	640	870	
12	1130	3060	1360	2320	8180	1880	230	1700	520	690	870	
13	1120	2600	1560	2130	8900	2520	235	1430	540	690	800	
14	1160	2000	1180	1780	8900	1880	235	1160	540	740	800	
15	1260	1560	1260	1850	6740	4060	250	1020	540	800	770	
16	1260	1180	1480	2380	6100	5300	340	940	540	800	740	
17	1360	1260	1360	3020	5920	6500	435	870	540	800	740	
18	1360	1560	1360	3620	6100	5600	510	800	540	800	740	
19	1480	1480	1310	4000	5750	5750	510	800	540	770	715	
20	1480	1650	1260	3850	5750	5440	770	740	555	740	715	
21	1420	2000	1180	3730	5750	4460	910	800	540	740	715	
22	1310	2600	1130	3840	6970	4460	1020	770	530	740	690	
23	1740	2600	1120	3950	11400	3430	1010	770	520	940	690	
24	1480	1650	1130	4060	10500	2220	1620	800	520	1310	690	
25	1420	1420	1160	4320	11000	1640	1900	800	520	1770	690	
26	1420	1420	1100	4190	10500	950	2050	740	530	1430	665	
27	1650	1420	1180	4320	9280	740	2100	740	530	1210	665	
28	1920	1420	1360	4590	8900	570	1620	770	540	1110	640	
29	1480		1480	4730	10500	485	1350	870	540	1060	640	
30	1220		1830	4730	11400	370	1520	800	540	940	640	
31	1220		1830		9280		2020	740		1110		
Mean	1350	1860	1440	3040	8010	5480	796	1730	561	836	852	
Run-off acre-feet	83000	103000	88500	181000	492000	326000	48900	106000	33400	51400	50700	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of South Platte River at Julesburg for 1914.
Drainage Area, 20,600 Square Miles. Altitude, 3,469 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					5160	5160	1280	15	740	225	530	
2					6060	4780	1150	20	740	225	530	
3					6060	4410	930	25	830	200	560	
4					5160	5160	560	40	830	200	625	
5					6060	5160	380	120	830	225	660	
6					7160	7160	275	325	830	250	700	
7					8510	10200	225	325	740	250	740	
8				300	7160	13400	200	250	740	275	830	
9				300	7840	12200	160	225	625	275	1030	
10				350	6060	11200	120	180	500	300	930	
11				500	5610	8510	80	160	410	300	830	
12				660	5160	3060	50	140	350	300	700	
13				830	5160	2210	30	120	300	300	560	
14				1030	5160	2210	30	120	275	300	470	
15				1090	5160	2210	50	100	275	350	470	
16				1150	6060	1960	30	80	275	350	530	
17				1350	6610	2210	30	120	275	350	590	
18				1420	6610	2210	30	120	275	350	700	
19				1580	7160	2680	30	140	300	350	830	
20				1960	7160	3520	30	180	300	300	930	
21				2210	5160	4780	25	200	300	275	1030	
22				2680	4410	3780	20	200	325	300	930	
23				3260	3780	3260	20	200	350	350	930	
24				3780	3780	2510	20	200	350	410	980	
25				3060	4410	2210	20	250	325	440	980	
26				3260	5160	1960	20	250	300	470	880	
27				3520	6060	1760	20	500	250	470	930	
28				4410	6060	1500	20	590	250	500	1030	
29				4410	6060	1420	20	660	250	500	1030	
30				4410	7160	1280	20	660	225	500	1030	
31					6060		15	740		530		
Mean				2070	5910	4460	190	234	446	336	783	
Run-off acre-feet				64100	363000	265000	11700	14400	26500	20700	46600	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Tarryall Creek near Jefferson for 1913.
Drainage Area, 223 Square Miles. Altitude, 9,500 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					90	84	39	53	36	84	24	20
2.....					86	73	34	43	36	99	24	20
3.....				146	50	95	31	40	36	54	24	19
4.....				114	43	61	24	36	36	45	24	17
5.....				99	40	64	13	36	36	42	27	
6.....				90	40	64	13	37	36	38	27	
7.....				60	42	84	7	37	54	36	36	
8.....				42	42	372	4	36	114	32	47	
9.....				54	36	353	8	36	130	28	54	
10.....				54	36	475	34	40	99	27	45	
11.....				42	37	433	30	84	84	27	42	
12.....				44	57	353	14	75	93	27	38	
13.....				84	54	155	9	54	54	27	36	
14.....				189	42	122	8	37	54	27	31	
15.....				225	27	80	8	36	46	27	27	
16.....				138	27	75	7	36	40	27	27	
17.....				114	26	76	216	36	36	27	27	
18.....				155	27	94	172	36	36	27	27	
19.....				106	27	155	198	36	36	27	27	
20.....				90	27	155	225	63	36	27	27	
21.....				130	27	155	198	64	36	61	27	
22.....				106	27	155	252	58	36	58	26	
23.....				73	19	155	138	64	36	36	24	
24.....				47	17	163	279	85	36	34	24	
25.....				35	17	130	106	60	36	31	21	
26.....				37	19	99	88	42	36	27	21	
27.....				36	79	71	45	36	36	27	20	
28.....				67	91	61	42	36	36	27	20	
29.....				84	55	46	42	36	36	27	20	
30.....				73	55	34	40	36	36	26	20	
31.....					64		36	36		26		
Mean.....				90.5	42.8	150	76.2	46.4	49.6	36.6	28.8	
Run-off acre-feet.....				5030	2630	8930	4690	2850	2950	2250	1710	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Tarryall Creek at Jefferson for 1914.
Drainage Area, 223 Square Miles. Altitude, 9,500 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				277	52	450	172	525	59	34	24	
2				250	98	525	207	312	52	33	24	
3				313	86	412	172	202	44	33	24	
4				334	114	315	172	273	42	34	22	
5				214	138	297	216	211	41	34	30	
6				223	78	261	106	180	44	34	34	
7				90	68	207	98	163	42	30	34	
8				49	90	172	94	152	39	30	34	
9				36	95	155	73	143	37	33	25	
10				84	95	130	50	127	37	33	23	
11				54	98	146	48	113	39	33	30	
12				54	109	172	96	108	39	31	34	
13				82	87	189	261	99	44	34	34	
14				122	117	189	412	93	48	34	34	
15				127	143	433	146	89	44	33	21	
16				114	171	525	155	87	44	34	18	
17				71	144	243	216	79	39	31	13	
18				48	124	198	392	84	40	30	15	
19				71	140	180	207	79	44	29	14	
20				48	188	189	172	72	34	30	14	
21				80	223	164	146	86	37	29	18	
22				90	241	146	353	90	36	40	21	
23				90	313	135	334	90	31	38	13	
24				82	277	119	261	79	29	38	16	
25				48	277	106	225	83	34	38	18	
26				48	232	97	216	97	34	34	18	
27				42	241	78	198	81	30	33	20	
28				44	328	74	279	65	28	34	23	
29				90	307	54	297	88	33	34	23	
30				95	248	54	225	66	34	30	27	
31					302		525	73		28		
Mean				112	168	214	210	135	39.3	33	23.3	
Run-off acre-feet				6660	10300	12700	12900	8300	2340	2030	1390	

Unless otherwise noted, all discharges are in cubic feet per second.

NORTH FORK OF SOUTH PLATTE RIVER AT GRANT.

Location.—At Grant postoffice, in sec. 9, T. 7 S., R. 74 W., in the Pike National Forest, 250 feet above the mouth of Geneva Creek.

Records Available.—July 18, 1910, to November 30, 1914.

Drainage Area.—51 square miles.

Gage.—Vertical staff.

Channel.—Shifting.

Discharge Measurements.—Made from footbridge and by wading.

Winter Flow.—Ice causes backwater during the winter months and measurements are made to determine the flow.

Diversions.—There are no court decrees for diversions from the North Fork above the station, but there is a decree for a diversion of 8 second-feet from a tributary.

Accuracy.—Though the channel is somewhat shifting, sufficient measurements were obtained to make the estimates reliable. The diurnal fluctuations at this station are so great that the mean of two daily readings does not represent the mean discharge, especially in the spring, when the snow is melting during the day and freezing during the night.

Co-operation.—Station maintained in co-operation with the United States Geological Survey.

DISCHARGE MEASUREMENTS ON NORTH FORK OF SOUTH PLATTE RIVER AT GRANT.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 15	Robert Follansbee....	1.94	50	Jan. 9*	Follansbee & Bunger .	1.80	7.2
May 22	R. H. Fletcher.....	2.11	69	Feb. 4*	M. E. Bunger.....	1.80	6.2
June 17	R. H. Fletcher.....	2.24	85	May 7	Robert Follansbee....	1.86	42
Aug. 8	R. H. Fletcher.....	1.64	22.9	July 6	D. L. Bundy.....	2.20	75
Sept. 28	Robert Follansbee....	1.60	20.0	Aug. 20	Robert Follansbee....	2.02	48
Dec. 4	R. H. Fletcher.....	1.94	9.0				
Dec. 30	R. H. Fletcher.....	1.82	5.8				

*Ice conditions.

NORTH FORK OF SOUTH PLATTE RIVER AT CASSELLS.

Location.—At Cassells, in sec. 11, T. 7 S., R. 74 W., in the Pike National Forest. The nearest tributary is a small stream entering from the south, a short distance below.

Records Available.—July 4, 1908, to November 30, 1913. Discontinued 1913.

Drainage Area.—128 square miles.

Gage.—Chain gage which replaced a vertical staff reading to the same datum.

Channel.—Shifting.

Discharge Measurements.—Made from bridge.

Winter Flow.—Ice causes backwater during the winter months and measurements are made to determine the flow.

Diversions.—There are no court decrees for diversions between this station and that at Grant.

Accuracy.—Although the channel is shifting, sufficient measurements have been obtained to make the estimates of discharge reliable. The diurnal fluctuations due to melting during the day and freezing at night are so great at this station during the spring and, to a less extent, in the fall, that the mean of two daily gage readings does not properly represent the mean stage.

Co-operation.—Station maintained in co-operation with the United States Forest Service and the United States Geological Survey.

DISCHARGE MEASUREMENTS ON NORTH FORK SOUTH PLATTE RIVER
AT CASSELLS.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 16	Robert Follansbee.....	1.40	68.6
May 24	R. H. Fletcher.....	2.01	242
June 17	R. H. Fletcher.....	2.10	285
Aug. 8	R. H. Fletcher.....	1.28	88.3
Sept. 28	Robert Follansbee.....	1.19	74
Dec. 4*	R. H. Fletcher.....	0.92	27.3
Dec. 31*	R. H. Fletcher.....	1.20	29.2

*Ice conditions.

NORTH FORK OF SOUTH PLATTE AT SOUTH PLATTE.

Location.—One-third mile above South Platte. No tributary between station and mouth at South Platte.

Records Available.—January 4, 1909, to September 30, 1910; April 1, 1913, to November 30, 1914.

Drainage Area.—450 square miles.

Gage.—Inclined staff whose datum has remained unchanged.

Channel.—Somewhat shifting.

Discharge Measurements.—Made from car and cable during high and medium stages, and by wading at low stages.

Winter Flow.—Ice causes backwater and discharge measurements are made to determine the flow.

Diversions.—There are court decrees for diversions of 20 second-feet from North Fork between Grant and South Platte, and 62 second-feet from intervening tributaries, exclusive of Geneva Creek. There are also a number of small ice and fish ponds which divert small amounts of water at various times.

Accuracy.—As the mean daily gage heights are based on one observation, they may be somewhat in error, and therefore the estimates can not be considered better than good.

Co-operation.—Station maintained in co-operation with the United States Geological Survey.

DISCHARGE MEASUREMENTS ON NORTH FORK OF SOUTH PLATTE RIVER
AT SOUTH PLATTE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 13*	R. H. Fletcher.....		36.	Jan. 12	M. E. Bunger.....	3.20	54
Feb. 25*	R. H. Fletcher.....		37	Jan. 21	M. E. Bunger.....	3.16	70
Apr. 1	R. H. Fletcher.....	1.8	76	Feb. 5	M. E. Bunger.....	1.89	65
May 15	Raymond Richards...	2.73	275	Feb. 24	M. E. Bunger.....	2.55	52
June 16	R. H. Fletcher.....	3.00	380	May 4	Thos. Grieve, Jr.....	3.78	574
Aug. 8	R. H. Fletcher.....	2.10	137	May 8	Robert Follansbee....	3.95	727
Sept. 29	R. Follansbee.....	2.25	126	May 28	R. H. Fletcher.....	4.95	1420
Nov. 1	R. Follansbee.....	1.98	90.3	July 7	D. L. Bundy.....	3.30	448
Dec. 29*	R. H. Fletcher.....		67.2	July 31	M. D. Anderson.....	4.45	1160
				Aug. 21	Robert Follansbee....	3.04	380
				Oct. 2	R. H. Fletcher.....	2.11	126
				Oct. 24	R. H. Fletcher.....	2.16	132

*Ice conditions.

Discharge of North Fork South Platte River at Grant for 1913.
Drainage Area, 49 Square Miles. Altitude, 8,566 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					50	82	65	34	18	28	20	11
2					45	79	60	32	21	44	20	11
3					45	75	55	28	21	44	16	10
4					42	72	50	24	21	21	21	9
5					40	72	45	22	21	23	26	10
6					35	75	40	22	21	24	21	11
7					50	78	50	22	24	20	16	10
8					60	78	37	22	26	20	24	9
9					50	80	42	22	26	21	20	8
10					40	82	42	25	24	20	21	7
11					52	85	42	28	24	22	22	6
12					64	85	43	28	24	20	18	6
13					75	78	44	25	20	27	18	6
14					65	78	45	22	19	21	16	5
15				51	55	78	46	22	22	21	21	5
16				40	45	82	47	23	22	23	28	5
17				30	51	85	47	23	22	17	33	6
18				20	54	90	47	24	21	21	16	6
19				22	57	95	47	24	21	21	16	6
20				24	54	90	46	22	20	20	18	6
21				26	51	85	44	22	20	20	17	6
22				26	63	85	42	22	20	24	16	6
23				26	69	72	42	22	18	20	16	6
24				26	65	68	42	21	18	23	16	6
25				26	60	65	42	21	18	22	14	6
26				20	80	65	42	21	18	32	13	6
27				23	75	65	40	21	18	27	13	6
28				26	70	65	37	21	20	18	12	6
29				36	85	65	37	18	22	30	12	6
30				45	85	65	37	18	25	24	11	6
31					85		36	18		21		6
Mean				29.2	58.6	77.3	44.5	23.2	21.2	23.8	18.4	7.06
Run-off acre-feet				927	3600	4600	2740	1430	1260	1460	1090	434

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of North Fork South Platte River at Grant for 1914.
Drainage Area, 49 Square Miles. Altitude, 8,566 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	6	5	8	24	57	318	110	104	35	29	17	
2	6	5	9	30	53	395	106	108	34	24	15	
3	6	5	10	23	92	275	99	118	35	19	13	
4	7	6	11	24	64	257	102	129	39	24	14	
5	7	5	12	47	62	223	92	105	39	19	16	
6	7	5	13	30	46	214	92	111	38	21	14	
7	7	5	14	26	47	193	92	99	26	21	14	
8	7	6	15	20	86	198	88	99	25	21	17	
9	7	6	16	16	111	158	70	93	25	26	15	
10	7	6	17	21	146	167	83	76	25	19	16	
11	7	6	19	26	141	174	81	69	25	19	19	
12	7	5	18	26	92	194	81	72	26	19	19	
13	7	5	18	30	126	178	88	63	26	19	15	
14	7	5	18	29	144	174	96	59	29	19	15	
15	6	6	18	34	161	202	89	55	33	19	18	
16	6	7	18	30	166	162	85	59	29	19	16	
17	5	7	19	35	177	158	89	57	25	19	19	
18	5	7	19	26	188	167	132	57	25	19	18	
19	5	7	19	51	199	167	89	62	25	21	17	
20	5	7	19	46	255	467	69	64	30	21	16	
21	5	7	20	59	291	162	86	63	29	18	15	
22	5	7	20	56	355	170	106	63	29	19	14	
23	5	7	20	44	327	170	104	64	29	19	13	
24	5	7	20	35	300	167	105	67	29	18	13	
25	5	7	23	53	282	158	99	72	29	22	10	
26	5	7	26	62	264	132	100	67	29	19	10	
27	5	7	23	68	264	114	104	47	29	18	10	
28	5	7	25	50	255	112	134	51	29	17	13	
29	5		20	62	246	110	130	47	24	16	13	
30	5		19	52	264	102	144	35	24	15	13	
31	5		20		282		188	36		16		
Mean	5.87	6.14	17.6	37.8	179	185	101	73.3	29.1	19.8	14.9	
Run-off acre-feet	361	341	1080	2250	11000	11000	6210	4510	1730	1220	887	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of North Fork South Platte River at Cassells for 1913.
Drainage Area, 128 Square Miles. Altitude, 8,530 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					115	243	139	139	73	100	47	
2.....					88	211	139	130	83	84	50	
3.....					88	211	130	106	76	84	54	
4.....					115	198	130	103	100	78	52	
5.....					105	184	120	96	85	74	52	
6.....					135	211	120	96	83	70	53	
7.....					148	184	118	88	88	66	56	
8.....					135	262	130	78	120	64	58	
9.....					115	227	130	82	106	65	52	
10.....					148	243	117	88	83	70	45	
11.....					160	262	100	96	97	70	52	
12.....					160	243	91	100	97	71	52	
13.....					160	198	91	91	87	64	50	
14.....					125	211	112	91	85	59	50	
15.....					105	227	117	88	100	63	39	
16.....				80	115	227	184	85	91	62	47	
17.....				67	125	262	150	82	85	53	50	
18.....				75	160	227	184	75	75	52	43	
19.....				66	135	243	211	75	71	52	43	
20.....				66	135	211	211	75	68	58	41	
21.....				74	135	227	184	75	73	62	41	
22.....				59	135	211	160	74	80	56	29	
23.....				67	211	198	160	71	75	59	37	
24.....				60	243	184	150	85	74	59	31	
25.....				54	227	184	139	74	76	62	50	
26.....				61	243	184	150	71	78	60	41	
27.....				66	243	160	150	74	79	53	43	
28.....				88	227	184	139	75	72	50	40	
29.....				105	243	184	139	73	68	52	30	
30.....				125	243	160	139	73	74	47	45	
31.....					243		139	71		43		
Mean.....				74.2	160	212	141	86.5	86.3	63.3	45.8	
Run-off acre-feet.....				2210	9840	12600	8670	5320	5140	3890	2730	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of North Fork South Platte River at South Platte for 1913.

Drainage Area, 450 Square Miles. Altitude, 6,097 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				76	343	424	274	171	150	180	90	46
2.....				93	343	343	274	171	150	230	90	54
3.....				61	274	343	244	150	171	188	107	54
4.....				35	217	343	244	150	171	188	90	54
5.....				61	307	307	217	171	193	146	90	93
6.....				76	343	307	217	150	193	146	107	130
7.....				76	382	343	193	150	171	146	107	130
8.....				61	343	424	217	130	217	126	107	93
9.....				61	274	517	217	111	244	126	107	76
10.....				47	382	517	193	150	193	126	90	68
11.....				76	424	620	193	217	171	126	90	54
12.....				76	424	469	171	193	274	126	90	54
13.....		36		93	675	424	150	193	193	126	90	54
14.....				111	382	382	150	193	150	116	90	68
15.....				171	274	424	193	171	191	107	90	68
16.....				171	244	382	193	150	212	107	90	68
17.....				193	274	382	424	150	186	107	90	68
18.....				193	382	424	274	171	184	107	90	54
19.....				150	382	424	382	171	160	107	90	68
20.....				193	343	424	307	171	158	90	90	54
21.....				217	307	424	382	171	136	126	90	54
22.....				193	343	382	307	150	134	126	59	54
23.....				171	343	382	382	150	132	107	36	54
24.....				111	382	382	343	150	150	107	36	68
25.....			37	171	424	343	244	193	148	107	90	84
26.....				150	469	343	217	171	146	107	74	84
27.....				171	517	307	217	171	144	107	90	76
28.....				244	469	307	193	150	130	126	90	68
29.....				343	469	343	193	150	125	59	90	68
30.....				343	517	307	171	150	125	107	36	68
31.....					469		171	171		90		76
Mean.....				140	378	391	243	163	170	125	85.9	69.8
Run-off acre-feet.....				8330	23200	23300	14900	10000	10100	7690	5110	4290

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of North Fork South Platte River at South Platte for 1914.

Drainage Area, 450 Square Miles. Altitude, 6,097 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	78	67	50	175	530	1700	510	820	273	131	120	
2	78	67	55	199	552	1780	530	820	258	120	120	
3	67	67	60	264	575	1460	510	1120	243	120	120	
4	46	67	60	308	595	1380	510	1000	229	120	120	
5	56	67	65	358	670	1220	552	940	202	120	120	
6	67	56	70	410	690	1060	490	880	202	131	120	
7	67	56	70	410	715	1010	450	820	202	120	100	
8	56	67	76	340	820	880	430	710	189	120	100	
9	67	72	61	308	880	792	410	660	189	120	100	
10	56	91	68	340	1060	850	392	660	177	120	92	
11	56	78	42	340	1150	880	375	565	177	120	120	
12	56	56	36	358	978	945	358	520	165	120	110	
13	56	67	48	392	880	945	410	480	165	131	100	
14	67	67	61	392	820	945	430	440	202	131	100	
15	78	67	76	410	792	1010	430	440	177	142	92	
16	104	67	111	430	880	978	450	422	165	131	83	
17	84	78	111	490	880	880	450	405	165	120	68	
18	78	84	111	430	945	820	470	422	165	110	54	
19	72	67	102	375	1010	792	410	405	154	110	54	
20	67	91	93	490	1150	765	392	388	154	100	54	
21	67	91	48	552	1220	740	358	388	154	100	54	
22	84	62	61	530	1620	715	490	370	142	110	54	
23	91	56	93	450	1860	665	575	370	142	177	54	
24	78	52	102	510	1620	620	450	352	142	120	42	
25	72	51	111	510	1380	575	470	388	142	131	42	
26	84	46	111	510	1300	530	450	388	131	142	42	
27	72	44	131	510	1380	510	430	370	131	131	42	
28	67	46	131	510	1460	490	610	319	131	120	54	
29	62		131	490	1460	470	660	319	142	110	100	
30	56		131	510	1460	490	660	288	142	120	100	
31	67		153		1620		1000	303		110		
Mean	69.6	66.0	84.8	410	1060	897	488	541	176	123	84.4	
Run-off acre-feet	4280	3660	5210	24400	65200	53400	30000	33300	10500	7560	5020	

Unless otherwise noted, all discharges are in cubic feet per second.

GENEVA CREEK AT GRANT.

Location.—In the Pike National Forest, at highway bridge in sec. 9, T. 7 S., R. 74 W., at Grant postoffice; 300 feet above mouth of creek.

Records Available.—November 3, 1911, to November 30, 1914.

Drainage Area.—74 square miles.

Gage.—Vertical staff.

Channel.—Somewhat shifting during high water.

Discharge Measurements.—Made from bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—There are no court decrees for diversions above this station.

Accuracy.—Results are considered good.

Co-operation.—Station maintained in co-operation with the United States Forest Service and the United States Geological Survey.

DISCHARGE MEASUREMENTS ON GENEVA CREEK AT GRANT.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 16	Robert Follansbee.....	1.15	28	Jan. 10*	Follansbee & Bunger..	2.02	15
May 22	R. H. Fletcher.....	1.71	123	Feb. 4*	M. F. Bunger.....	1.40	15
June 17	R. H. Fletcher.....	1.80	143	May 7	Robert Follansbee....	1.26	41
Aug. 8	R. H. Fletcher.....	1.40	62	July 6	D. L. Bundy.....	2.00	203
Sept. 27	Robert Follansbee....	1.39	56	Aug. 20	Robert Follansbee....	1.75	103
Sept. 28	Robert Follansbee....	1.30	48	Oct. 3	Robert Follansbee....	1.34	37
Dec. 4*	R. H. Fletcher.....	1.22	18				
Dec. 30*	R. H. Fletcher.....	.90	16				

*Ice conditions.

SCOTT GOMER CREEK * NEAR GRANT.

Location.—Near Sullivan's ranch, in sec. 19, T. 6 S., R. 74 W., in the Pike National Forest, about 5 miles above Grant, one-fourth mile above mouth of creek. No tributary enters between mouth and station.

Records Available.—Fragmentary records August 16, 1909, to November 21, 1913.

Drainage Area.—21 square miles.

* Also called East Geneva Creek.

Gage.—Vertical staff, moved to its present location, $2\frac{3}{4}$ miles below original site, September 4, 1909. Datum unchanged in new location, but has no determined relation to datum of original gage.

Channel.—Slightly shifting.

Discharge Measurements.—Made by wading.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—There are no court decrees for diversions above this station, and therefore the records probably represent the natural run-off.

Accuracy.—Conditions are favorable for fairly accurate results and the estimates of flow should be reliable.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON SCOTT GOMER CREEK AT GRANT.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
June 17	R. H. Fletcher.....	1.28	26
Aug. 8	R. H. Fletcher.....	1.03	17
Sept. 27	Robert Follansbee...	1.29	28

BEAR CREEK AT MOUTH.

Location.—At Sheridan Junction station on the South Park branch of the Colorado & Southern R. R.

Records Available.—April 1 to November 30, 1914, and miscellaneous measurements.

Gage.—Vertical staff.

Channel.—Shifting.

Diversions.—Below all diversions on the stream.

Accuracy.—Owing to the extreme high water in 1914 and the shifting character of the channel, records can not be considered better than fair.

DISCHARGE MEASUREMENTS ON BEAR CREEK AT MOUTH.

Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Mch. 31	Grieve & Bundy.....	2.22	83
Apr. 6	Grieve & Bundy.....	3.55	260
Apr. 19	Thos. Grieve, Jr.....	4.40	362
May 7	C. C. Hesmalhalch ...	4.50	592
June 10	C. C. Hesmalhalch ...	2.30	148
July 6	C. C. Hesmalhalch ...	0.42	38.8
Aug. 20	Thos. Grieve, Jr.....	0.60	67.3
Oct. 8	D. L. Bundy.....	0.15	19.0

Discharge of Geneva Creek at Grant for 1913.
Drainage Area, 74 Square Miles. Altitude, 8,566 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				18	105	188	125	92	54	75	28	22
2.....				18	109	165	113	92	61	84	27	22
3.....				16	66	165	113	84	78	66	30	19
4.....				14	63	145	111	84	66	60	30	18
5.....				14	96	151	109	84	73	61	30	20
6.....				15	113	173	98	78	76	56	25	20
7.....				15	125	188	98	73	73	40	28	19
8.....				16	145	214	109	64	88	39	30	18
9.....				16	135	210	138	63	80	42	27	17
10.....				16	145	229	105	78	86	43	30	17
11.....				16	140	214	92	98	86	44	26	16
12.....				22	188	151	88	96	84	40	25	16
13.....				28	240	179	78	76	71	50	25	14
14.....				34	138	138	73	70	63	46	22	12
15.....				40	122	182	102	70	52	44	30	12
16.....				46	105	182	140	70	92	38	39	14
17.....				39	165	182	140	70	64	32	28	14
18.....				29	165	210	153	70	64	35	23	16
19.....				30	138	173	167	61	58	39	25	16
20.....				37	120	173	159	66	49	40	25	16
21.....				38	120	182	159	66	48	37	25	16
22.....				46	140	188	159	56	49	43	27	16
23.....				26	210	165	170	56	49	36	37	16
24.....				22	173	165	159	58	58	38	37	16
25.....				22	173	153	145	50	54	42	33	16
26.....				30	240	159	138	49	49	37	31	15
27.....				46	203	145	132	58	54	43	33	15
28.....				66	188	159	102	56	60	33	27	15
29.....				78	240	145	94	56	60	30	26	15
30.....				102	188	120	92	58	58	36	35	15
31.....					214		90	58		30		15
Mean.....				31.8	152	173	121	69.7	66.2	44.5	28.8	16.4
Run-off acre-feet.....				1890	9350	10300	7440	4290	3940	2740	1710	1010

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Geneva Creek at Grant for 1914.
Drainage Area, 74 Square Miles. Altitude, 8,566 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	15	16	14	17	26	1140	302	425	88	34	30	
2.....	15	15	13	15	31	1060	325	670	74	36	27	
3.....	15	15	13	22	113	855	280	715	76	37	29	
4.....	15	15	18	20	66	960	280	510	78	37	24	
5.....	14	15	17	30	66	785	280	410	78	31	22	
6.....	14	14	17	19	60	648	302	355	81	38	22	
7.....	15	14	17	25	82	615	280	285	60	35	21	
8.....	15	14	20	25	58	582	260	300	61	36	20	
9.....	15	15	17	22	203	460	260	295	78	36	21	
10.....	15	17	17	32	222	582	280	275	53	35	19	
11.....	15	17	17	25	240	648	325	260	57	35	19	
12.....	15	19	17	25	222	715	302	180	58	33	21	
13.....	16	17	13	28	222	680	350	158	58	37	21	
14.....	17	15	17	66	203	648	375	155	57	45	21	
15.....	18	17	17	49	222	715	402	165	76	32	18	
16.....	19	18	15	50	240	582	402	122	83	36	27	
17.....	19	18	13	45	280	582	325	122	60	33	12	
18.....	19	18	17	30	350	582	402	117	55	33	19	
19.....	17	19	22	40	430	582	325	120	45	32	19	
20.....	17	18	12	50	520	582	280	120	55	32	19	
21.....	17	18	14	45	582	582	280	120	46	30	19	
22.....	17	16	17	105	995	582	325	158	48	33	26	
23.....	17	17	19	109	925	582	302	104	52	34	26	
24.....	17	18	14	102	820	582	302	97	52	37	28	
25.....	17	19	22	92	820	648	302	126	52	36	24	
26.....	17	16	15	66	680	430	302	128	53	36	23	
27.....	17	15	17	33	785	302	350	92	52	38	22	
28.....	17	16	20	33	715	302	260	101	35	29	24	
29.....	18		19	39	715	280	680	115	44	29	23	
30.....	17		18	36	855	302	490	104	34	29	27	
31.....	15		15		960		785	88		29		
Mean.....	16.3	16.5	16.5	43.2	410	620	344	226	60	34.3	22.4	
Run-off acre-feet.....	1000	916	1010	2570	25200	36900	21200	13900	3570	2110	1330	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Scott Gomer Creek near Grant for 1913.
Drainage Area, 21 Square Miles.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....									16		12	
2.....												
3.....										23		
4.....						30						
5.....								16				
6.....												
7.....						25						
8.....						42		18		18	16	
9.....												
10.....					30		23					
11.....				3		39						
12.....									36		7.2	
13.....					46							
14.....								21				
15.....												
16.....				3.5								
17.....						28				18		
18.....									25			
19.....							42					
20.....								18				
21.....				4.2				16			8	
22.....					54				25			
23.....						19						
24.....							39					
25.....												
26.....												
27.....									25			
28.....				6.5			39					
29.....								16				
30.....						30						
31.....					95							
Mean.....												
Run-off acre-feet.....												

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Bear Creek at Mouth for 1914.
Altitude, 5,300 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				88	725	442	33	630	30	20	52	
2				102	695	442	42	642	30	20	46	
3				140	650	406	40	609	16	20	40	
4				153	650	383	39	676	12	25	46	
5				249	620	328	47	530	12	25	52	
6				242	592	296	40	486	12	20	52	
7				230	593	266	30	432	12	20	52	
8				308	606	224	12	400	6	20	66	
9				185	632	173	12	390	6	20	66	
10				211	632	155	6	350	6	20	59	
11				218	646	126	6	300	6	20	59	
12				204	646	107	6	243	6	20	66	
13				218	567	98	15	206	10	20	66	
14				282	466	116	30	187	16	20	66	
15				371	478	224	40	161	25	20	66	
16				410	528	350	40	128	20	20	59	
17				429	504	201	40	88	20	12	59	
18				429	567	167	96	80	20	12	59	
19				422	554	137	80	73	20	12	59	
20				445	567	116	73	66	20	12	59	
21				482	541	91	66	73	25	12	59	
22				487	580	72	104	88	25	12	52	
23				520	593	56	300	80	20	112	52	
24				520	593	49	187	66	20	104	52	
25				539	567	44	170	52	20	88	40	
26				545	541	42	144	52	20	88	40	
27				575	504	40	136	52	20	96	40	
28				645	491	38	178	59	20	80	40	
29				660	478	35	400	46	20	66	52	
30				695	454	34	370	40	25	66	52	
31					442		484	35		66		
Mean				366	571	175	105	23.9	17.3	37.7	54.3	
Run-off acre-feet				21800	35100	10400	6460	14700	1030	2320	3230	

Unless otherwise noted, all discharges are in cubic feet per second.

CLEAR CREEK NEAR GOLDEN.

Location.—About 2 miles above Golden, in sec. 6, T. 4 S., R. 70 W., and a short distance below the headgate of the Golden ditch. The only tributary of importance between the station and the mouth is Ralston Creek, which enters about 12 miles below.

Records Available.—December 4, 1908, to December 31, 1909; June 8 to September 24, 1911; January 1 to November 30, 1914.

Drainage Area.—Approximately 380 square miles.

Gage.—Automatic recording gage, whose datum has remained unchanged.

Channel.—Slightly shifting.

Discharge Measurements.—Made from car and cable located near the gage.

Winter Flow.—Ice causes backwater during the winter months, but discharge measurements are made to determine the approximate winter flow.

Diversions.—Between Forks creek and the station near Golden there is a court decree for a diversion of 26 second-feet by the Golden ditch.

Accuracy.—Conditions are favorable for accurate results, and the records should be reliable.

Co-operation.—Station maintained by the United States Geological Survey in co-operation with the Denver Reservoir Irrigation Co. Records were furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON CLEAR CREEK NEAR GOLDEN.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharg Sec. Ft.
Jan. 15*	R. H. Fletcher.....		52.6	Jan. 17	M. E. Bunger.....	1.40	105
Feb. 20*	R. H. Fletcher.....		47.4	Feb. 10*	M. E. Bunger.....	2.20	58
Mar. 8	R. H. Fletcher.....	1.10	50.4	Feb. 21	M. E. Bunger.....	1.28	75
July 11	R. H. Fletcher.....	2.42	391	Feb. 26	R. H. Fletcher.....	1.36	95
Aug. 13	R. H. Fletcher.....	2.10	289	Apr. 21	Thos. Grieve, Jr.....	2.15	288
Oct. 21	Thos. Grieve, Jr.....	1.63	125	May 11	R. H. Fletcher.....	3.60	1040
Nov. 4	R. H. Fletcher.....	1.60	149	Aug. 19	R. H. Fletcher.....	2.19	348
Dec. 27*	R. H. Fletcher.....		75.8	Sept. 30	R. H. Fletcher.....	1.38	124
				Oct. 9	D. L. Bundy.....	1.35	96
				Nov. 24	R. H. Fletcher.....	0.94	53

*Ice conditions.

CLEAR CREEK NEAR MOUTH.

Location.—At pile highway bridge seven miles from Denver and one-half mile above mouth.

Records Available.—April 1, 1914, to November 30, 1914.

Gage.—Standard chain gage.

Discharge Measurements.—From bridge at high water, wading at low stages.

Diversions.—Below all diversions on the stream.

Accuracy.—Channel is extremely shifting and results are poor. After July 14, gages on two channels were used. The results are the combination of the two channels.

	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
	1914			
Mch.	31	Thos. Grieve, Jr.....	1.20	42.8
May	6	C. C. Hoshalhalch ...	2.80	632
June	24	C. C. Hoshalhalch ...	2.62	611
CHANNEL NO. 1				
July	14	Thos. Grieve, Jr.....	1.95	107
Aug.	12	D. L. Bundy.....	1.20	40.7
Sept.	3	Thos. Grieve, Jr.....	.50	0.5
Oct.	16	D. L. Bundy.....	0.50	0.5
CHANNEL NO. 2				
July	14	Thos. Grieve, Jr.....	1.40	104
Aug.	12	D. L. Bundy.....	0.95	58.4
Sept.	3	Thos. Grieve, Jr.....	0.55	20.9
Oct.	16	D. L. Bundy.....	0.60	17.9

BOULDER CREEK AT ORODELL.

Location.—At Orodell station in sec. 27, T. 1 N., R. 71 W.; just above mouth of Fourmile Creek.

Records Available.—March 18, 1907, to November 26, 1914. From May 14, 1895, to December 20, 1909, a station was maintained about 1 mile below the present site, chiefly by the State engineer. The records at the two points are not directly comparable, as some water is diverted for irrigation between.

Drainage Area.—108 square miles.

Gage.—Automatic recording gage installed by the Colorado Power Co.

Channel.—Shifts in extreme high water.

Discharge Measurements.—Made from car and cable.

Winter Flow.—Ice causes backwater during the winter months and during that period discharge measurements are made to determine the flow.

Diversions.—There are no diversions from Boulder Creek above the station, but there are court decrees for diversions of 165 second-feet from tributaries entering above. Below the station there are decrees for diversions of 2,871 second-feet from Boulder Creek.

Co-operation.—Station maintained in co-operation with the Colorado Power Co.

DISCHARGE MEASUREMENTS ON BOULDER CREEK AT ORODELL.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 30	M. E. Bunger.....	2.05	40	Apr. 23	D. L. Bundy & Thos. Grieve.....	2.70	124
Feb. 27	M. E. Bunger.....	1.80	17	May 12	D. L. Bundy.....	2.95	196
Mar. 19	M. E. Bunger.....	1.88	22	June 16	Thos. Grieve, Jr.....	3.60	670
May 13	M. E. Bunger.....	2.28	61	July 10	D. L. Bundy.....	3.00	366
July 8	M. E. Bunger.....	2.82	153	Aug. 25	Thos. Grieve, Jr....	2.20	129
Oct. 22	D. L. Bundy.....	2.60	115				

Discharge of Clear Creek near Golden for 1913.
Drainage Area, 380 Square Miles. Altitude, 5,620 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			50	74	241	882	520	368	215	294	157	
2.....			50	80	234	810	520	330	215	294	144	
3.....			50	60	213	742	472	294	215	277	144	
4.....			50	40	204	698	450	294	220	260	157	
5.....			50	55	228	656	450	312	220	254	162	
6.....			50	60	267	692	450	330	220	244	167	
7.....			50	60	316	639	450	312	220	198	173	
8.....			52	56	316	595	450	294		194	157	
9.....			52	52	316	590	429	238		190	144	
10.....			52	50	316	622	429	260		187	120	
11.....			52	55	380	742	408	330		184	149	
12.....			52	60	450	662	388	330		180	152	
13.....			52	65	505	622	330	312		177	149	
14.....			52	70	446	595	349	294		173	154	
15.....	53		52	80	372	644	408	277		170	149	
16.....			52	85	330	686	472	260		170	132	
17.....			52	120	360	680	570	257		157	132	
18.....			52	125	380	845	595	260		157	149	
19.....			52	116	416	845	595	244	234	157	144	
20.....			52	139	421	810	520	234	254	157	144	
21.....			52	184	384	775	595	238	260	157	152	
22.....			52	173	360	710	595	234	250	163	102	
23.....			52	144	408	710	595	216	241	166	89	
24.....		47	52	125	505	650	680	247	228	170	100	
25.....			52	139	585	606	570	219	213	170	127	
26.....			47	125	845	570	520	210	222	132	116	
27.....			56	137	960	595	495	213	222	157	98	7c
28.....			65	162	698	742	450	213	210	144	98	
29.....			62	190	742	742	450	213	213	98	144	
30.....			60	225	920	600	408	213	213	144	72	
31.....			68		845		388	213		157		
Mean.....			53	104	450	692	484	266	226	185	136	
Run-off acre-feet.....			3260	6190	27700	41200	29800	16400	8520	11400	8090	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Clear Creek near Golden for 1914.
Drainage Area, 380 Square Miles. Altitude, 5,620 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				86	403	2900	990	760	247	116	116	
2.....				103	431	2780	955	852	278	107	111	
3.....				106	439	2600	955	820	192	107	113	
4.....				109	473	2420	990	732	218	107	107	
5.....				112	486	2160	1020	679	192	116	97	
6.....				115	500	1850	955	603	192	116	88	
7.....				118	509	1650	885	555	157	116	87	
8.....				121	576	1510	852	532	192	116	82	
9.....				124	665	1300	820	509	192	126	82	
10.....		58		126	950	1420	820	465	218	116	82	
11.....				136	985	1600	820	423	168	116	78	
12.....				162	880	1650	790	423	168	107	80	
13.....				172	720	1900	760	383	168	116	80	
14.....				177	690	2000	760	364	146	116	69	
15.....				174	720	2050	705	328	192	116	53	
16.....				198	810	1600	679	328	192	116	53	
17.....	105			291	915	1700	760	328	168	107	54	
18.....				277	1060	1850	820	311	168	107	53	
19.....				264	985	1850	705	311	146	107	53	
20.....				280	1100	1750	653	328	146	113	53	
21.....		75		312	1300	1700	653	346	157	120	52	
22.....				333	1680	1510	790	364	157	126	53	
23.....				330	1950	1420	790	328	157	133	53	
24.....				328	1950	1420	653	311	146	140	53	
25.....				325	1900	1300	593	278	136	146	58	
26.....			92	322	1840	1140	569	278	126	146	53	
27.....			90	326	1900	1020	603	294	126	146	53	
28.....			85	330	1950	1140	603	278	116	136	53	
29.....			85	350	1950	1060	603	278	116	136	53	
30.....			76	375	1780	1060	643	294	116	136	53	
31.....			83		2300		885	278		136		
Mean.....			85.2	219	1120	1710	777	431	170	121	70.7	
Run-off acre-feet.....			1010	13000	68900	102000	47800	26500	10100	7440	4210	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Clear Creek at Mouth for 1914.
Altitude, 5,110 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				330	822	1210	78	379	56	18	30	
2.....				390	894	1260	115	362	40	18	30	
3.....				240	858	1170	90	394	18	26	20	
4.....				270	822	1000	78	343	14	18	20	
5.....				285	822	1040	102	334	10	18	30	
6.....				484	822	930	142	289	8	27	25	
7.....				601	822	788	210	208	8	18	20	
8.....				652	894	720	255	180	8	18	20	
9.....				618	930	686	155	162	8	18	20	
10.....				584	1000	652	102	152	4	18	19	
11.....				601	1070	720	285	124	4	18	19	
12.....				517	966	720	360	120	4	18	19	
13.....				390	894	805	452	74	4	18	19	
14.....				652	788	788	550	36	4	22	19	
15.....				584	652	966	206	36	4	18	29	
16.....				584	788	858	192	36	10	18	39	
17.....				720	930	858	237	36	14	18	69	
18.....				788	1000	858	310	36	18	18	78	
19.....				720	966	894	266	46	26	18	133	
20.....				652	930	894	190	36	14	18	162	
21.....				686	858	930	147	30	14	18	171	
22.....				686	1000	858	199	36	10	18	89	
23.....				754	1000	788	339	36	10	218	30	
24.....				686	1000	720	195	36	8	203	30	
25.....				686	1000	618	254	36	8	132	30	
26.....				652	1000	517	199	36	8	123	25	
27.....				788	1040	452	184	36	8	65	20	
28.....				720	1000	300	180	36	10	35	20	
29.....				720	1000	155	189	26	14	30	20	
30.....				720	1040	102	250	30	14	30	20	
31.....					1110		394	30		30		
Mean.....				592	926	775	223	121	12.7	37.4	42.5	
Run-off acre-feet.....				35200	56900	46100	13700	7440	756	2300	2530	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Boulder Creek at Orodell near Boulder for 1913.
Drainage Area, 108 Square Miles. Altitude, 5,723 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	20	27		27	51	328	157	117	40	51	40	45
2.....	45	28	17	27	51	308	147	112	57	51	38	45
3.....	12	29	27	37	51	308	147	107	51	51	36	51
4.....		30	32	47	45	308	147	102	84	51	45	45
5.....		31	32	57	57	308	147	97	92	51	51	36
6.....		33	27	57	64	287	157	92	92	84	51	40
7.....		34	32	64	70	231	170	87	84	57	51	40
8.....		36	24	70	77	231	157	82	117	64	39	40
9.....		38	19	64	77	214	137	77	108	57	27	40
10.....		40	14	64	70	231	137	77	108	51	40	51
11.....		40	36	70	70	268	147	84	106	36	45	64
12.....		36	32	77	70	268	108	64	103	45	40	70
13.....		40	32	64	70	268	108	64	100	57	40	70
14.....		40	45	84	64	248	108	70	70	40	40	67
15.....		40	32	84	57	214	137	64	64	40	40	64
16.....		20	30	70	51	231	117	64	57	40	39	70
17.....		32	27	57	57	199	127	51	51	40	39	64
18.....	36	32	36	57	64	214	137	64	51	40	39	57
19.....		40	14	45	64	231	137	51	45	40	38	57
20.....	17	40	17	51	64	231	147	51	40	64	38	45
21.....	32	32	15	64	64	231	170	77	64	64	36	64
22.....	32	29	14	57	70	248	184	40	51	57	36	70
23.....	32	26	12	51	70	268	170	51	51	53	36	70
24.....	36	20	17	51	77	248	157	51	45	49	36	70
25.....	20	45	8	51	77	231	157	51	40	44	36	64
26.....	24	36		51	92	199	147	70	64	40	35	64
27.....	27	32	51	51	137	199	137	57	51	57	33	45
28.....	36	40	40	51	157	199	157	64	51	51	32	42
29.....	36		27	51	214	170	127	45	51	48	32	40
30.....	36		32	51	170	170	127	36	51	45	24	38
31.....	36		32		214		127	36		42		36
Mean.....	29.8	33.8	26.7	56.7	83.4	243	143	69.5	68	50.3	38.4	53.7
Run-off acre-feet.....	*1830	1880	*1640	3370	5130	14500	8790	4270	4050	3090	2280	3300

Unless otherwise noted, all discharges are in cubic feet per second. *Figures for entire month.

Discharge of Boulder Creek at Orodell for 1914.
Drainage Area, 108 Square Miles. Altitude, 5,723 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	47	42		32	156		345	270	79			
2.....	47	58		37	156		306	270				
3.....	47	77		32	156		286	238			39	
4.....	47	58		52	169		306	195			39	
5.....	52		52	77	182		345	182		58	39	
6.....	52		42	91	169		324	170		46	39	
7.....	52		28	84	169		306	159	73	50	39	
8.....	52		18	77	182		286	148		50		
9.....	58		28	70	196		286	138		50		
10.....	42	37	37	84	196		286	170		63		
11.....	20	42	28	70	196		286	138				
12.....	47	42	37	64	182		286	138		42	46	
13.....	47	42	42	58	156		286	128	79	46		
14.....	20	42	32	58	134		286	128		39		
15.....	20		24	77	125		253	120		39		
16.....	47		32	91		670	223	120	68	39		
17.....	47		37	98			238	112	58	39		
18.....	37		28	77			253	112				
19.....	58		28	84			270	106	73	36		
20.....	58		24	91			253	98	68	36	58	
21.....	58		24	116		640	253	98	73	36		
22.....	58	15	24	125		584	270	98	79	39		
23.....	58	37	20	145		558	253	98			63	
24.....	58	37	20	145	394		253	106			63	
25.....	52	37	20	134	530		223	98			63	
26.....	70	42	20	134	530		209	85		50	63	
27.....	58	37	20	156	595	366	238	92		46		
28.....	52	32	20	156	702	345	195	85		54		
29.....	58		20	134	630	345	209	92				
30.....	52		28	156	562	345	270	79				
31.....	58		28				270	73				
Mean.....	49.3	42.3	28.2	93.5	294	482	269	134	72.2	45.2	50.1	
Run-off acre-feet.....	3030	*2350	*1730	5560	12800	7640	16500	8240	*4300	*2780	*2080	

Unless otherwise noted, all discharges are in cubic feet per second. *Acre feet figured for full month.

Note: Gage removed June 1 on account of flood and not replaced until June 16.

SOUTH BOULDER CREEK NEAR ROLLINSVILLE.

Location.—At highway bridge in sec. 35, T. 1 S., R. 73 W., 1 mile west of Rollinsville, in the Pike National Forest. The nearest important tributary, Jennie Creek, enters 3 miles above.

Records Available.—September 10, 1910, to November 30, 1914.

Drainage Area.—39 square miles.

Gage.—Vertical staff.

Channel.—Fairly permanent.

Discharge Measurements.—Made from bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes backwater during the winter months.

Diversions.—There are no court decrees for diversions above the station, and therefore it is probable that the records represent the natural run-off.

Accuracy.—Conditions are favorable for fairly accurate results and the estimates of discharge should be reliable.

Co-operation.—Station is maintained by the United States Geological Survey in co-operation with the United States Forest Service. Records furnished by the United States Geological Survey.

DISCHARGE MEASUREMENTS ON SOUTH BOULDER CREEK NEAR ROLLINSVILLE.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 15	R. H. Fletcher.....	1.90	145	Jan. 26*	R. H. Fletcher.....	0.98	9.9
July 4	R. H. Fletcher.....	1.60	65	Mar. 4	R. H. Fletcher.....	0.93	10.
				May 12	R. H. Fletcher.....	2.20	176.
				May 13	R. H. Fletcher.....	2.05	152.
				Aug. 28	Robert Follansbee....	1.22	30.

*Ice conditions.

SOUTH BOULDER CREEK AT ELDORADO SPRINGS.

Location.—At the mouth of the canyon at Eldorado Springs, in sec. 30, T. 1 S., R. 70 W., 3 miles southwest of Marshall. No important tributaries within several miles.

Records Available.—May 15, 1895, to September 30, 1901; July 1, 1904, to November 30, 1914.

Drainage Area.—125 square miles.

Gage.—Vertical staff; datum unchanged.

Channel.—Fairly permanent.

Discharge Measurements.—Made by wading.

Winter Flow.—Ice causes backwater during the winter months, and measurements are made to determine the flow.

Diversions.—There are court decrees for diversions of 137 second-feet above the station and 1,658 second-feet below. There are also a number of flood-water decrees.

DISCHARGE MEASUREMENTS ON SOUTH BOULDER CREEK AT ELDORADO SPRINGS.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 14	M. E. Bunger.....	1.75	75	June 16	Thos. Grieve, Jr.....	2.70	238
July 8	M. E. Bunger.....	1.75	77.4	July 9	D. L. Bundy.....	2.25	176
Oct. 24	D. L. Bundy.....	1.40	21.3				

ST. VRAIN CREEK AT LYONS.

Location.—Three-fourths of a mile below Lyons, in sec. 17, T. 3 N., R. 70 W., one fourth mile below the junction of North and South St. Vrain creeks and just below Stone Canyon.

Records Available.—August 1, 1887, to October 31, 1890; June 13, 1895, to October 31, 1903; July 1, 1904, to November 30, 1914.

Drainage Area.—209 square miles.

Gage.—Inclined staff gage installed August 9, 1909, at practically the same datum as the inclined staff gage used from 1895 to 1903. It is not known whether the gage used prior to 1895 was located at the present site.

Channel.—Permanent.

Discharge Measurements.—Made from car and cable.

Winter Flow.—Ice causes backwater during a portion of the winter months.

Diversions.—There are court decrees for the diversion of 166 second-feet from the St. Vrain and tributaries above the station. Below there are court decrees for 1,632 second-feet from St. Vrain Creek and flood-water diversions of 190,000 acre-feet.

Co-operation.—During 1913 and 1914 the station was maintained in co-operation with the Great Western Sugar Co.

DISCHARGE MEASUREMENTS ON ST. VRAIN CREEK AT LYONS.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 30	M. E. Bunger.....	1.65	12	Apr. 2	Bundy & Grieve.....	2.35	128
Feb. 27	M. E. Bunger.....	1.85	21	May 9	D. L. Bundy.....	3.45	511
Mar. 20	M. E. Bunger.....	2.00	22	June 5	Thos. Grieve, Jr.....	4.02	923
May 13	M. E. Bunger.....	3.35	335	July 26	Thos. Grieve, Jr.....	2.72	220
July 7	M. E. Bunger.....	2.90	198	Aug. 25	Thos. Grieve, Jr.....	2.28	112
Oct. 18	D. L. Bundy.....	2.10	82	Oct. 28	C. C. Heamhalch ...	2.15	82.8

**Discharge of South Boulder Creek near Rollinsville, Colorado.
for 1913.**

**Drainage Area, 39 Square Miles. Altitude, 8,500 Feet Above
Sea Level.**

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					113	283	115	38	24	35	30	
2.....					113	271	115	37	29	37	28	
3.....					113	260	85	36	35	39	27	
4.....					122	248	92	35	40	41	30	
5.....					131	248	100	35	45	43	32	
6.....					140	239	85	35	58	45	35	
7.....					131	231	85	33	71	57	35	
8.....					122	222	80	27	85	54	35	
9.....					149	214	75	27	57	51	35	
10.....					144	205	70	27	51	48	35	
11.....					140	248	57	30	45	45	35	
12.....					175	226	57	32	40	48	35	
13.....					179	205	63	35	35	51	33	
14.....					160	202	68	27	31	44	31	
15.....					141	199	74	24	31	38	35	
16.....					145	196	79	27	29	31	31	
17.....					158	193	85	27	28	27	28	
18.....					172	190	85	27	27	20	24	
19.....					185	183	85	24	29	25	24	
20.....					145	177	65	22	30	30	24	
21.....					155	170	45	20	32	35	24	
22.....					165	160	58	20	33	35	24	
23.....					175	150	71	20	35	35	24	
24.....					185	140	85	20	35	35	24	
25.....					185	134	64	20	35	35	24	
26.....					271	128	59	20	35	35	24	
27.....					295	122	54	20	35	35	23	
28.....				110	295	122	50	20	35	35	21	
29.....					295	130	45	20	35	34	20	
30.....					295	122	40	17	35	32	20	
31.....					295		40	19		31		
Mean.....					177	194	72	26.5	38.8	38.3	28.3	
Run-off acre-feet.....					10900	11500	4430	1630	2310	2360	1680	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of South Boulder Creek near Rollinsville for 1914.
Drainage Area, 39 Square Miles. Altitude, 8,500 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				25	62	b505	226	101	33		23	
2.....				27	60	b542	237	97	31		20	
3.....				34	74	498	228	93	29		20	
4.....			10	40	88	455	220	85	27		18	
5.....				37	98	406	212	78	24		15	
6.....				34	81	392	203	71	22		12	
7.....				31	64	392	195	64	20		12	
8.....				37	93	355	175	57	17		13	
9.....				32	171	318	165	24	15		13	
10.....				27	172	306	237	45	14		14	
11.....				31	174	282	205	51	13		14	
12.....				27	175	330	172	55	12		13	
13.....				29	146	380	140	57	16		16	
14.....				55	165	380	138	51	20		20	
15.....				60	180	380	137	48	20		18	
16.....				64	195	374	136	44	17		16	
17.....				55	227	368	146	40	10		14	
18.....				60	259	355	132	45	12		14	
19.....				64	355	405	114	42	14		13	
20.....				62	259	380	93	39	16		13	
21.....				64	455	355	93	36	19		13	
22.....				60	430	330	78	33	19		12	
23.....				67	424	306	94	31	19		12	
24.....				57	418	330	110	30	19		12	
25.....				93	411	306	104	29	19		12	
26.....		10		78	405	282	110	32	19	20	12	
27.....				64	430	248	116	35	16	26	13	
28.....				64	455	248	122	29	13	31	13	
29.....				64	405	248	128	30	14	33	12	
30.....				64	442	237	134	31	14	26	12	
31.....					450		140	32		26		
Mean.....	10.0	10.0	12.0	50.2	252	356	153	49.5	18.4	27.0	14.5	
Run-off acre-feet.....	615	555	738	2990	15500	21200	9410	3040	1090	321	863	

Unless otherwise noted, all discharges are in cubic feet per second.

b Dam burst above station.

**Discharge of South Boulder Creek at Eldorado Springs for 1913.
Drainage Area, 125 Square Miles. Altitude, 5,800 Feet Above
Sea Level.**

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				43	127	254	105	33	25	55	39	17
2.....				43	127	237	95	33	19	55	30	17
3.....				25	116	237	85	33	29	43	33	17
4.....				25	155	237	85	38	22	55	26	17
5.....				25	124	207	85	43	22	49	27	17
6.....				33	128	207	85	43	19	43	23	15.5
7.....				33	135	179	77	33	19	33	27	15
8.....				25	165	179	77	29	43	38	16	15
9.....				22	187	193	69	25	69	43	30	15
10.....				19	155	207	69	33	55	33	23	21
11.....				33	185	237	69	33	43	29	21.5	
12.....				33	194	222	55	33	33	43	24	
13.....				43	229	193	55	29	25	43	19	
14.....				55	207	152	55	29	33	43	22.5	
15.....				69	164	166	69	25	38	38	19	
16.....				69	143	166	69	25	38	33	17	
17.....				77	144	166	85	25	43	33	23	
18.....				69	139	179	85	25	33	33	23	
19.....				69	153	179	69	25	33	33	19	
20.....				85	180	179	69	22	33	38	19	
21.....				85	105	179	85	22	29	38	18	
22.....				95	105	166	69	22	25	43	19	
23.....				85	127	166	85	19	29	22	19	
24.....				77	152	166	85	19	33	25	19	
25.....				69	166	140	69	22	33	29	25	
26.....				69	193	127	69	19	33	21	25	
27.....				77	237	127	69	19	33	21.5	22	
28.....				85	237	127	55	19	29	28	33	
29.....				105	270	127	55	19	33	29	16.5	
30.....				105	270	105	43	19	33	29	17	
31.....					254		43	19		33		
Mean.....				58.2	170	180	72.2	26.1	32.8	36.5	23.3	16.6
Run-off acre-feet.....				3460	10500	10700	4440	1600	1950	2240	1390	329

Unless otherwise noted, all discharges are in cubic feet per second. Note: Flow of Community Canal included.

Discharge of South Boulder Creek at Eldorado Springs for 1914.
Drainage Area, 125 Square Miles. Altitude, 5,800 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			15.4	64.5	318	867	217	152	43	22	19	
2.....			15.4	67.5	315	855	206	179	43	25	9	
3.....			15.4	79.9	294	925	192	152	38	25	9	
4.....			15.4	102	312	765	194	127	33	25	9	
5.....			15.4	133	354	665	215	127	33	25	9	
6.....			15.4	151	354	570	200	105	33	25	22	
7.....			15.4	135	354	495	175	105	25	25	22	
8.....			15.4	108	450	390	177	105	33	25	22	
9.....			15.4	92.2	557	320	165	95	33	29	22	
10.....			15.4	97.2	615	330	167	105	33	29	19	
11.....			15.4	95.2	615	357	185	95	33	29	19	
12.....			15.4	102	557	356	160	85	25	29	19	
13.....			15.4	124	450	393	163	77	29	33	19	
14.....			21.3	160	400	466	267	69	33	33	19	
15.....			21.3	219	400	422	153	69	33	33	19	
16.....			33.3	263	557	329	132	62	33	33	13	
17.....			37.2	289	550	315	132	69	29	33	22	
18.....			41.1	213	605	309	152	69	29	33	25	
19.....			35.2	172	655	334	152	55	25	29	25	
20.....			33.3	197	715	319	140	55	25	29	25	
21.....			38.2	211	775	308	127	55	29	29	29	
22.....			39.2	238	920	300	179	69	33	33	25	
23.....			26.8	253	915	267	162	55	29	55	21	
24.....			31.4	222	950	252	127	55	29	33	21	
25.....			33.9	237	905	272	127	49	29	38	21	
26.....			38.8	252	750	220	127	55	25	43	21	
27.....			48.7	252	715	222	105	69	25	38	21	
28.....			49.6	252	790	210	105	55	25	33	21	
29.....			49.6	260	725	212	105	55	25	33	21	
30.....			52.6	276	664	215	105	55	25	33	23	
31.....			55.1		701		207	43		33		
Mean.....			28.6	177	588	409	162	83.0	30.5	32.4	19.7	
Run-off acre-feet.....			1760	10500	36200	24300	9960	5100	1820	1990	1170	

Unless otherwise noted, all discharges are in cubic feet per second. Daily estimates include flow of Community canal.

Discharge of St. Vrain Creek at Lyons for 1913.
Drainage Area, 209 Square Miles. Altitude, 5,349 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					138	382	197	98	66	118	51	
2					138	382	184	98	66	118	45	
3					138	404	172	118	82	108	45	
4					138	404	184	118	82	128	35	
5					128	382	184	118	98	138	35	
6					138	382	210	118	98	118	45	
7					160	342	210	118	98	118	45	
8					160	382	210	98	220	118	45	
9					38	382	254	172	98	180	99	45
10					38	306	288	238	98	138	83	35
11					38	324	426	197	98	138	69	35
12					52	324	342	160	98	138	99	35
13					74	306	270	138	90	118	118	35
14					98	382	254	128	90	99	108	35
15					98	288	306	238	82	99	108	35
16					98	224	342	197	82	118	99	35
17					108	210	306	197	82	91	99	30
18					128	224	342	224	82	83	99	25
19					149	210	342	254	82	83	99	35
20					184	184	324	184	82	83	83	25
21					197	160	306	224	82	83	69	25
22					184	138	270	270	74	76	69	21.5
23					160	210	270	270	74	76	57	21.5
24					149	224	254	306	74	83	45	21.5
25					138	270	254	210	82	83	45	35
26					138	270	238	160	66	83	35	35
27					128	362	238	128	66	83	35	25
28					128	362	238	118	66	76	35	21.5
29					128	362	238	118	66	69	35	18
30					138	362	210	118	52	69	35	18
31						382		98	66		45	
Mean					118	254	312	190	88	99	85	33
Run-off acre-feet					5150	15100	18600	11700	5410	5890	5230	1960

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of St. Vrain Creek at Lyons for 1914.
Drainage Area, 209 Square Miles. Altitude, 5,349 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1			25	118	600	1190	461	486	91	45	57	
2			25	118	540	1340	436	346	118	45	45	
3			25	138	540	1190	436	327	99	45	35	
4			25	172	513	1090	436	308	99	45	40	
5			25	160	486	910	486	274	91	35	51	
6			30	149	461	750	461	242	83	40	45	
7			25	149	436	670	390	242	91	45	40	
8			30	160	486	570	346	212	83	45	45	
9			35	172	513	486	368	212	69	45	40	
10			25	160	540	540	368	212	76	45	35	
11			30	172	486	670	368	212	83	45	35	
12			35	160	461	790	346	185	83	45	35	
13			45	185	413	910	346	185	83	45	35	
14			57	185	368	1040	346	212	99	45	35	
15			69	212	308	1000	346	185	83	51	35	
16			69	291	346	830	346	185	99	51	18	
17			69	291	346	830	346	185	99	45	22	
18			83	274	368	830	346	198	83	40	18	
19			69	258	436	830	258	160	83	35	18	
20			69	242	486	910	242	138	76	35	18	
21			76	258	513	910	274	138	91	35	18	
22			76	242	600	790	390	128	83	69	18	
23			69	227	600	670	308	118	76	99	18	
24			69	242	600	600	242	118	76	83	18	
25			83	258	600	540	242	118	69	99	18	
26			83	291	600	436	212	118	57	99	18	
27			91	346	635	413	212	118	45	91	18	
28			99	436	870	436	242	118	40	91	18	
29			99	513	830	436	227	108	45	69	18	
30			99	570	830	436	670	99	45	57	18	
31			99		830		540	83		57		
Mean			58.3	238	537	768	356	192	79.9	55.5	29.4	
Run-off acre-feet			3580	14200	33000	45700	21900	11800	4750	3410	1750	

Unless otherwise noted, all discharges are in cubic feet per second.

BIG THOMPSON CREEK NEAR MOUTH.

Location.—At highway bridge four miles from Evans and about half mile above mouth.

Records Available.—April 1, 1914, to November 30, 1914.

Discharge Measurements.—From highway bridge during high stages and wading at low stages.

Diversions.—Station is below all diversions on the stream.

Accuracy.—During the extreme high water of this year, channel shifted and some water also went around the station. The results cannot be considered better than fair.

DISCHARGE MEASUREMENTS ON BIG THOMPSON NEAR MOUTH

Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 3	Bundy & Grieve.....	1.52	50
May 8	Thos. Grieve, Jr.....	6.48	1147
July 10	C. C. Hesmalhalch ...	1.50	11.3
Aug. 27	Thos. Grieve, Jr.....	1.45	12.6
Oct. 22	D. L. Bundy.....	2.00	58.0

CACHE LA POUDDRE RIVER AT MOUTH OF CANON, NEAR FORT COLLINS.

Location.—In sec. 15, T. 8 N., R. 70 W., 3 miles below the intake of the Fort Collins waterworks, 12 miles above Fort Collins; half a mile above mouth of Lewstone Creek.

Records Available.—March 15, 1884, to October 15, 1901; February 3, 1910, to November 30, 1914.

Drainage Area.—1,060 square miles.

Gage.—An automatic recording gage installed November 30, 1909; datum unchanged. No information available concerning the gage used from 1884 to 1901.

Channel.—Permanent.

Discharge Measurements.—Made from car and cable.

Winter Flow.—Ice causes backwater during the winter months and measurements are made to determine the flow.

Diversions.—There is a court decree for a diversion of 57 second-feet from Cache la Poudre River between this station and the one 3 miles above, and decrees for diversions of 119 second-feet from intervening tributaries. Below the station there are decrees for diversions of 3,105 second-feet from the river. In addition, there are numerous decrees for flood-water diversions.

Co-operation.—During 1913 and 1914 the station was maintained in co-operation with the North Poudre and the Larimer and Weld Irrigation Companies.

DISCHARGE MEASUREMENTS OF CACHE LA POUDRE RIVER AT MOUTH OF CANON.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Jan. 29*	M. E. Bunger.....	1.6	38	May 8	D. L. Bundy.....	2.90	1240
Feb. 26*	M. E. Bunger.....	1.45	54	June 18	Thos. Grieve, Jr.....	4.02	2600
Mar. 18	M. E. Bunger.....	1.05	57	July 22	Thos. Grieve, Jr.....	2.64	933
May 12	M. E. Bunger.....	2.72	940	Aug. 26	Thos. Grieve, Jr.....	1.68	291
June 12	M. E. Bunger.....	3.20	1351	Oct. 20	D. L. Bundy.....	1.08	82.6
July 11	M. E. Bunger.....	2.24	608				
Oct. 13	D. L. Bundy.....	1.48	205				

*Ice conditions.

CACHE LA POUDRE AT MOUTH.

Location.—About three miles below Greeley and one-half mile above mouth.

Records Available.—March 24, 1903, to October 31, 1903; July 20, 1904, to November 30, 1904; February 1, 1914, to November 30, 1914.

Discharge Measurements.—By wading at low stages and from highway bridge about one mile above at high stages.

Diversions.—Below all diversions on the stream.

Accuracy.—On account of extreme high water during 1914, and shifting channel, results cannot be considered better than fair.

DISCHARGE MEASUREMENTS ON CACHE LA POUDRE RIVER AT MOUTH.

Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 3	M. E. Bunger.....	1.50	66.5
Feb. 9	M. E. Bunger.....	2.39	115
Feb. 16	M. E. Bunger.....	3.16*	136
Feb. 28	M. E. Bunger.....	3.20	154
Mar. 23	D. L. Bundy.....	3.10	144
May 7	D. L. Bundy.....	6.78	1196
May 28	C. C. Hermalhaloh ..	7.38	1756
June 20	Thos. Grieve, Jr.....	6.53	1102
July 10	C. C. Hermalhaloh ...	3.08	84.5
Aug. 6	D. L. Bundy.....	3.90	46.6
Aug. 27	Thos. Grieve, Jr.....	3.12	59.1
Oct. 22	D. L. Bundy.....	3.55	125

*New gage put in.

Discharge of Big Thompson River at Mouth near Evans for 1914.
Altitude, 4,652 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				50	1230	852	35	7	7	19	45	
2.....				50	1620	1030	19	7	7	19	45	
3.....				50	1620	1110	12	7	12	19	45	
4.....				50	1800	1090	10	7	16	27	40	
5.....				50	1260	971	45	7	19	40	40	
6.....				50	1220	881	96	7	19	35	40	
7.....				34	1180	808	66	6	19	27	35	
8.....				165	1160	681	66	6	16	27	40	
9.....				236	1130	489	27	6	16	27	35	
10.....				165	1130	227	19	7	16	27	40	
11.....				284	1170	227	4	7	16	27	45	
12.....				274	1180	152	7	7	16	27	35	
13.....				274	1170	160	12	7	16	45	35	
14.....				294	1050	325	7	7	19	45	35	
15.....				327	1000	723	7	7	19	40	35	
16.....				514	986	926	7	7	19	35	35	
17.....				680	956	911	6	7	19	35	35	
18.....				774	911	751	4	7	19	35	35	
19.....				720	823	597	4	7	23	35	35	
20.....				734	852	611	4	7	23	45	31	
21.....				734	911	653	4	7	27	45	27	
22.....				734	866	723	7	7	23	55	27	
23.....				748	941	569	72	10	27	66	35	
24.....				774	1000	227	27	10	27	84	35	
25.....				774	1060	135	12	7	31	66	35	
26.....				788	837	66	6	7	40	66	35	
27.....				842	653	55	7	10	45	55	50	
28.....				912	653	31	7	10	35	55	45	
29.....				926	923	23	7	7	27	55	45	
30.....				1010	780	19	7	7	27	55	40	
31.....					709		27	7		45		
Mean.....				467	1040	534	20.6	7.3	21.5	41.4	37.8	
Run-off acre-feet.....				27800	64000	31800	1270	449	1280	2550	2250	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Cache la Poudre River at Mouth of Canon for 1913.
Drainage Area, 1,060 Square Miles. Altitude, 5,070 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					180	2060	660	300	235	130	145	
2					180	1720	590	300	235	162	145	
3					162	1600	590	325	255	215	145	
4					145	1600	590	145	198	255	145	
5					198	1540	590	375	198	255	145	
6					255	1360	590	400	215	235	180	
7					350	1190	520	375	180	198	115	
8					400	1190	490	375	430	162	80	
9					430	1240	490	350	375	198	90	
10					490	1240	555	350	325	162	145	
11					665	1720	625	325	300	162	198	
12				80	900	1480	520	375	278	215	115	
13				90	1040	1240	460	400	215	215	70	
14				130	945	1090	460	430	215	215	70	
15				145	730	1090	520	400	180	215	70	
16				145	660	1190	555	325	130	215	70	
17				130	660	1090	555	196	162	180	70	
18				130	730	1140	590	198	215	162	70	
19				130	945	1190	730	180	215	145	70	
20				115	900	1140	555	130	198	198	80	
21				162	810	1090	490	162	198	215	62	
22				130	665	1090	430	162	198	162	50	
23				145	855	990	555	130	115	180	40	
24				90	1240	945	665	162	90	180	50	
25				90	1420	1040	590	130	90	180	80	
26				90	1860	945	520	180	90	162	90	
27				90	2130	1040	460	162	102	198		
28				130	2060	1090	400	162	162	162		
29				162	2060	900	375	255	162	145		
30				162	2130	730	325	215	145	115		
31					2270		300	235		115		
Mean				123	920	1230	528	265	204	184	100	
Run-off acre-feet				4630	56600	73200	32500	16300	12100	11300	5160	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Cache la Poudre River at Mouth of Canon for 1914.
Drainage Area, 1,060 Square Miles. Altitude, 5,070 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				35	1040	4560	990	625	430	80	70	
2.....				45	1190	4780	1040	590	430	70	70	
3.....				50	1300	4670	1040	555	400	80	70	
4.....				55	1240	4250	990	490	350	90	70	
5.....				70	1240	3960	1090	460	325	102	70	
6.....				80	1190	3340	1040	400	325	115	70	
7.....				80	1140	2780	1040	375	300	115	62	
8.....				70	1190	2410	945	375	278	115	62	
9.....				90	1300	1920	900	325	235	115	55	
10.....				115	1360	1990	900	300	195	90	55	
11.....				90	1420	2200	900	278	180	80	62	
12.....				90	1660	2200	810	255	162	80	62	
13.....				115	1860	2480	730	255	145	102	70	
14.....				130	1720	2780	810	255	145	102	70	
15.....				235	1790	2560	810	235	145	90	55	
16.....				325	1540	2480	770	215	162	90	55	
17.....				278	1420	2480	810	198	180	90	55	
18.....				235	1600	2410	855	198	145	90	62	
19.....				215	1720	2560	695	198	145	80	70	
20.....				235	2130	2480	770	198	145	80	70	
21.....				255	2560	2560	810	278	130	70	80	
22.....				255	2860	2200	900	350	115	80	70	
23.....				325	2940	1920	770	350	115	102	70	
24.....			35	300	3260	1660	695	300	102	115	70	
25.....			30	325	3340	1480	590	278	102	90	70	
26.....			35	350	3260	1300	555	300	102	102	80	
27.....			40	400	3430	1140	520	325	102	90	70	
28.....			32	375	4150	1300	590	350	90	80	70	
29.....			30	490	3780	1090	520	325	90	90	70	
30.....			35	730	3780	1090	730	325	90	80	62	
31.....			40		4150		730	430		80		
Mean.....			34.6	215	2150	2500	818	335	195	91.4	66.6	
Run-off acre-feet.			549	12800	132000	149000	50300	20600	11600	5620	3960	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Cache la Poudre River at Mouth near Greeley for 1914.

Altitude, 4,664 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....		66	160	138		2530	35	44	35	65	120	
2.....		66	170	152			35	44	33	67	126	
3.....		66	156	152			35	48	33	72	120	
4.....		75	165	148			36	62	33	78	120	
5.....		84	170	152			37	71	33	102	120	
6.....		93	170	152			37	71	33	138	120	
7.....		102	181	175	1270		37	62	35	144	126	
8.....		112	187	181	1200		36	41	35	158	120	
9.....		115	213	220	1090	1640	35	39	34	144	120	
10.....		112	213	194	1060	650	35	39	35	151	126	
11.....		112	206	213	1200	401	35	37	33	144	132	
12.....		106	175	213	1340	454	33	37	35	144	126	
13.....		102	181	200	1640	504	33	36	41	132	126	
14.....		102	175	175	1600	559	33	35	36	151	120	
15.....		102	175	175	1310	820	33	35	41	138	110	
16.....		119	170	213	1090	1550	33	35	50	132	110	
17.....		138	165	305	990	1340	35	35	60	126	102	
18.....		141	160	315	870	1380	35	37	65	120	98	
19.....		144	141	335	706	1380	35	40	60	126	94	
20.....		152	138	335	517	1120	35	37	55	120	94	
21.....		160	134	315	634	1090	37	40	45	120	98	
22.....		170	138	315	1090	960	39	35	40	132	102	
23.....		156	144	335	1600		37	35	42	172	102	
24.....		134	141	357	1640		39	35	44	188	102	
25.....		141	144	379	1910		42	35	46	165	106	
26.....		152	141	346	2060		44	35	48	158	106	
27.....		148	141	357	1510		41	35	52	158	102	
28.....		148	144	379	1770		39	35	57	144	102	
29.....			141	401	2340	39	38	36	58	138	102	
30.....			141	413	2670	35	37	35	60	132	102	
31.....			138		2440		39	35		126		
Mean.....		119	162	258	1420	968	36.4	41.2	43.6	132	112	
Run-off acre-feet.....		6610	9960	15400	70400	32600	2240	2530	2590	8120	6660	

Unless otherwise noted, all discharges are in cubic feet per second. Note.—Above page June 2-8.

YAMPA AND WHITE RIVER DRAINAGES

YAMPA RIVER AT YAMPA.

Location.—On the bridge connecting the town of Yampa with the Denver and Salt Lake Railroad station.

Records Available.—May 17, 1910, to November 30, 1914.

Drainage Area.—52 square miles.

Gage.—Chain gage.

Channel.—Shifting during high water.

Discharge Measurements.—Made from the highway bridge.

Winter Flow.—Ice causes backwater and the records are discontinued during the winter months.

Diversions.—There are court decrees for diversions of 258 second-feet from the headwater streams above Yampa.

Note.—Station moved downstream 150 feet to road bridge on April 5, 1914.

DISCHARGE MEASUREMENTS ON YAMPA RIVER AT YAMPA.

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
Feb. 24	C. L. Chatfield.....		18*	Apr. 4	C. L. Chatfield.....	1.85	20
Apr. 22	C. L. Chatfield.....	0.77	36	May 1	C. L. Chatfield.....	1.98	32
May 19	C. L. Chatfield.....	0.30	5.6	May 30	C. L. Chatfield.....	2.75	159
July 6	C. L. Chatfield.....	0.00	0.50	July 29	C. L. Chatfield.....	1.98	40
July 14	C. L. Chatfield.....	-0.06	0.40	Sept. 7	C. L. Chatfield.....	1.85	23
Sept. 3	C. L. Chatfield.....	0.48	11.9				
Sept. 25	C. L. Chatfield.....	0.52	15				

*Ice conditions.

YAMPA RIVER AT STEAMBOAT SPRINGS.

Location.—At the lower steel bridge at Steamboat Springs; a short distance below the mouth of Soda Creek.

Records Available.—May 3, 1904, to October 31, 1906; March 1, 1910, to November 30, 1914.

Drainage Area.—572 square miles.

Gage.—Automatic recording gage.

Channel.—Practically permanent.

Discharge Measurements.—Made from the steel bridge.

Winter Flow.—The hot springs keep the river practically open during the winter months.

Diversions.—There are court decrees for diversions of 115 second-feet from Yampa River between Yampa and Steamboat Springs, and diversions of 231 second-feet from intervening tributaries.

DISCHARGE MEASUREMENTS ON YAMPA RIVER AT STEAMBOAT SPRINGS.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 22	C. L. Chatfield.....	*1.40	111	Apr. 18	C. L. Chatfield.....	2.62	699
Apr. 24	C. L. Chatfield.....	2.65	727	May 7	C. L. Chatfield.....	3.00	969
Apr. 29	C. L. Chatfield.....	3.02	1093	June 3	C. L. Chatfield.....	5.55	4739
May 1	C. L. Chatfield.....	3.12	1278	July 16	C. L. Chatfield.....	1.65	239
May 9	C. L. Chatfield.....	3.62	1678	Aug. 12	C. L. Chatfield.....	1.35	151
June 4	C. L. Chatfield.....	3.42	1399				
June 20	C. L. Chatfield.....	2.30	522				
July 17	C. L. Chatfield.....	1.55	178				
Aug. 14	C. L. Chatfield.....	1.27	114				
Nov. 18	C. L. Chatfield.....	1.43	147				

*Ice conditions.

YAMPA RIVER AT CRAIG.

Location.—One mile south of Craig on steel bridge on road to Hamilton, Colo., a short distance below the mouth of Fortification Creek, the nearest tributary.

Records Available.—May 25, 1901, to September 4, 1902; April 30, 1904, to October 31, 1906; April 1, 1910, to November 15, 1914.

Drainage Area.—1,730 square miles.

Gage.—Chain gage.

Channel.—Slightly shifting.

Discharge Measurements.—Made from highway bridge.

Diversions.—There are court decrees for diversions of 238 second-feet from Yampa River between this station and Steamboat Springs, and 411 second-feet from intervening tributaries exclusive of a conditional decree for 587 second-feet from the North Fork of Elkhead Creek.

DISCHARGE MEASUREMENTS ON YAMPA RIVER AT CRAIG.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 10	C. L. Chatfield.....		166*	Apr. 7	C. L. Chatfield.....	5.34	3633
May 16	C. L. Chatfield.....	5.19	3405	May 12	C. L. Chatfield.....	6.72	6688
May 26	C. L. Chatfield.....	6.18	5451	June 12	C. L. Chatfield.....	6.60	6145
May 31	C. L. Chatfield.....	6.40	5778	July 1	C. L. Chatfield.....	4.25	2237
July 25	C. L. Chatfield.....	3.66	1219	Sept. 9	C. L. Chatfield.....	2.65	264
Aug. 25	C. L. Chatfield.....	2.24	106				
Sept. 9	C. L. Chatfield.....	2.50	225				
Oct. 14	C. L. Chatfield.....	2.65	339				

*Ice conditions.

Discharge of Yampa River at Yampa for 1913.
Drainage Area, 52 Square Miles. Altitude, 7,884 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					54	54	0.5	1.0	20	20	30	36
2.....					54	41	0.5	0.5	25	20	30	36
3.....					54	36	0.5	0.5	25	20	30	36
4.....					54	30	0.5	0.5	25	20	30	36
5.....					62	30	0.5	0.5	25	20	30	36
6.....					70	30	0.5	0.5	25	20	30	36
7.....					70	30	0.5	0.5	25	20	30	36
8.....				11	70	30	0.5	0.5	25	30	30	36
9.....				13	54	20	0.5	0.5	25	30	30	36
10.....				20	70	13	0.5	0.5	25	30	30	36
11.....				30	89	16	0.5	0.5	25	30	30	
12.....				30	100	8.5	1.0	2.2	25	30	30	
13.....				48	70	7	1.0	4.2	25	30	30	
14.....				62	54	7	0.5	11	25	25	36	
15.....				54	48	7	0.5	16	25	25	36	
16.....				48	41	5.5	0.5	16	25	25	36	
17.....				48	41	5.5	1.0	25	25	25	30	
18.....				41	41	5.5	1.5	25	25	25	30	
19.....				41	41	4.2	3	20	20	25	30	
20.....				41	36	2.2	5.5	20	20	25	30	
21.....				41	30	2.2	11	20	20	25	30	
22.....				41	30	1.5	13	20	20	25	30	
23.....				36	26	0.5	20	20	20	25	30	
24.....				30	30	0.5	36	20	20	25	30	
25.....				30	30	0.5	36	25	20	25	30	
26.....				41	30	0.5	36	25	20	30	30	
27.....				41	36	0.5	36	20	20	30	30	
28.....				48	41	0.5	25	20	20	30	30	
29.....				54	54	0.5	20	20	20	30	30	
30.....				54	54	0.5	13	20	20	30	30	
31.....					54		7	20		30		
Mean.....				40	51	13	8.8	12	23	26	31	36
Run-off acre-feet.....				1800	3140	774	541	738	1370	1600	1840	714

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Yampa River at Yampa for 1914.
Drainage Area, 52 Square Miles. Altitude, 7,884 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					27	212	77	50	38	27	27	
2.....					32	212	77	50	38	27	27	
3.....					32	224	77	50	38	27	17	
4.....					32	201	77	50	27	27	13	
5.....				38	38	201	93	38	27	27	9	
6.....				38	38	201	77	32	27	27	9	
7.....				38	56	201	77	27	27	27	9	
8.....				38	77	201	70	27	27	22	17	
9.....				38	85	179	50	27	27	22	17	
10.....				32	93	201	50	27	27	22	17	
11.....				27	93	224	38	27	27	17	17	
12.....				17	77	224	38	27	27	17	17	
13.....				22	93	224	32	27	27	17	17	
14.....				22	110	201	27	27	27	17	19	
15.....				27	102	190	27	27	27	17	19	
16.....				27	85	128	27	27	27	17	17	
17.....				27	128	128	27	17	38	17	17	
18.....				27	138	148	27	17	38	17	17	
19.....				32	148	168	17	17	38	17	17	
20.....				32	168	248	27	17	38	17	22	
21.....				32	190	248	27	27	27	17	27	
22.....				32	190	236	77	27	27	17	27	
23.....				38	212	201	63	27	17	17	27	
24.....				38	212	212	50	27	17	17	27	
25.....				38	168	148	38	27	17	27	27	
26.....				38	128	138	50	27	17	27	27	
27.....				38	128	110	50	32	17	27	27	
28.....				27	128	148	50	44	17	27	22	
29.....				27	168	85	50	38	17	27	27	
30.....				27	190	77	50	38	17	27	27	
31.....					212		50	38		27		
Mean.....				31	115	184	51	31	27	22	20	
Run-off acre-feet.....				1620	7100	10900	3110	1900	1600	1350	1160	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Yampa River at Steamboat Springs for 1913.
Drainage Area, 572 Square Miles. Altitude, 6,680 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					1360	1760	190	108	70	85	70	78
2.....					1460	1710	160	100	85	78	70	78
3.....					1260	1660	135	92	85	78	70	70
4.....					1360	1560	125	92	85	78	70	70
5.....					1460	1560	115	92	85	100	70	70
6.....					1560	1360	115	108	85	108	70	70
7.....					1660	1220	100	85	85	85	70	70
8.....					1760	1260	85	85	85	92	70	70
9.....					1870	1220	85	78	92	92	70	70
10.....				350	1980	1080	100	78	92	92	70	70
11.....				350	2140	1120	100	78	92	92	70	70
12.....				430	2260	900	92	100	85	100	78	70
13.....				990	2200	820	85	108	78	100	92	70
14.....				1120	1870	780	92	100	78	100	92	70
15.....				1460	1460	740	115	92	85	92	92	70
16.....				1560	1560	660	115	85	78	92	85	70
17.....				1410	1660	660	160	85	78	78	78	70
18.....				1510	1760	660	135	85	78	78	70	70
19.....				1560	1820	590	160	85	78	78	70	70
20.....				1460	1510	525	135	85	70	78	70	70
21.....				1360	1260	460	225	85	62	78	70	
22.....				1310	1310	350	190	78	70	85	78	
23.....				990	2260	430	305	70	78	85	78	
24.....				820	2200	558	590	78	85	92	78	
25.....				900	2430	700	305	70	92	100	78	
26.....				740	2430	780	225	70	92	92	78	
27.....				820	2430	625	160	70	85	85	78	
28.....				900	2310	430	160	70	85	85	78	
29.....				1220	2430	328	135	55	85	78	78	
30.....				1360	2090	225	115	55	78	70	78	
31.....					1760		115	62		70		
Mean.....				1080	1830	891	159	83	82	87	76	71
Run-off acre-feet.....				44800	113000	53000	9800	5100	4900	5350	4520	2810

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Yampa River at Steamboat Springs for 1914.
Drainage Area, 572 Square Miles. Altitude, 6,680 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				340	690	4860	588	250	340	140	190	
2				422	1070	4860	555	250	205	140	178	
3				588	1070	5120	445	220	205	140	178	
4			152	690	1170	3960	445	205	205	140	178	
5			152	850	1170	4060	422	205	190	178	178	
6			140	1360	1020	3580	400	190	140	190	178	
7			140	892	980	2460	380	178	100	190	165	
8			140	808	1170	2460	320	190	120	235	165	
9			130	728	1420	1840	320	190	120	285	152	
10			130	588	1730	3220	285	190	120	250	152	
11			165	588	1840	2200	285	190	120	250	140	
12			178	690	1520	2140	250	178	120	235	140	
13			165	808	1520	3220	250	165	140	205	140	
14			165	1020	1520	3060	268	165	152	205	140	
15			165	1460	1780	2330	268	152	165	205	140	
16			165	1520	2200	2080	250	152	165	220	130	
17			165	980	2330	2460	235	140	165	220	130	
18			190	655	2460	1780	250	140	152	220	130	
19			205	525	2740	1840	268	140	140	220	140	
20			205	655	2900	1960	235	140	165	220	152	
21			220	690	3140	2080	220	152	220	250	140	
22			235	728	3400	1840	285	152	190	285	140	
23			205	1170	3770	1620	360	178	140	320	130	
24			205	765	3770	1020	250	152	140	250	120	
25			190	690	3960	1020	235	152	140	250	120	
26			205	690	3680	892	235	205	140	220	130	
27			235	655	3400	765	250	285	130	220	130	
28			268	655	4170	620	250	205	120	220	120	
29			340	620	4170	555	250	205	130	205	120	
30			302	655	4620	495	250	205	140	205	120	
31			302		4740		250	220		220		
Mean			195	783	2420	2350	308	185	157	217	146	
Run-off acre-feet			10800	46600	149000	140000	19000	11400	9360	13400	8660	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Yampa River at Craig for 1913.
Drainage Area, 1,730 Square Miles. Altitude, 6,185 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				3000	6640	5580	885	390	145	260	325	
2.....				2700	6380	4360	835	390	145	260	325	
3.....				2420	4150	4250	745	358	172	260	325	
4.....				2560	3240	3860	658	325	200	260	390	
5.....				2630	3160	3240	615	325	200	325	390	
6.....				2560	3490	3160	615	325	145	325	390	
7.....				2630	3670	3240	575	260	200	325	390	
8.....				2350	4700	2850	498	260	230	325	325	
9.....				1240	5190	2700	460	260	292	390	325	
10.....				1080	4940	2700	460	260	200	325	325	
11.....				1080	5320	2920	460	260	200	325	325	
12.....				1340	5450	2850	460	260	200	325	325	
13.....				1680	5710	2420	425	260	200	325	325	
14.....				2210	5190	2210	390	260	200	325	325	
15.....				2780	3960	2210	358	260	200	325	390	
16.....				3160	3400	2210	325	260	200	390	390	
17.....				3320	3080	2140	325	230	200	390	325	
18.....				3400	3160	2070	460	200	200	390	390	
19.....				3960	3960	2140	535	172	200	325	325	
20.....				3320	3960	5000	535	145	200	325	390	
21.....				3240	3400	1740	535	95	200	325	390	
22.....				3160	3000	1620	535	95	230	325	390	
23.....				2920	2780	1460	535	95	200	325	390	
24.....				2920	3320	1290	885	95	200	325	390	
25.....				2780	4700	1400	1080	95	260	325	390	
26.....				2560	5190	1680	835	95	260	325	390	
27.....				2280	5710	1400	658	95	260	325	390	
28.....				2780	5710	1290	615	95	260	325	390	
29.....				3580	5450	1130	535	72	260	325	390	
30.....				4150	5580	1030	390	50	260	325	390	
31.....					5580		390	95		325		
Mean.....				2660	4490	2440	568	208	211	325	364	
Run-off acre-feet.....				158000	276000	145000	34900	12800	12600	20000	21700	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Yampa River at Craig for 1914.
Drainage Area, 1,730 Square Miles. Altitude, 6,185 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				1870	3080	9420	2000	790	390	390	535	
2.....				2000	3400	10000	1940	790	480	390	535	
3.....				2560	4050	10300	1870	790	615	460	460	
4.....				3080	4050	10000	1740	700	615	535	460	
5.....				3160	4580	9420	2280	700	460	615	496	
6.....				3960	4250	9560	2000	615	460	615	535	
7.....				4150	3960	8720	1740	535	460	615	615	
8.....				3000	4150	7460	1400	535	390	745	615	
9.....				2350	5450	5970	1340	535	390	700	535	
10.....				2070	6920	5320	1290	535	325	700	535	
11.....				1870	7460	5840	1130	535	325	790	460	
12.....				2000	7180	6100	1080	460	390	745	425	
13.....				2210	5710	6780	980	460	390	658	390	
14.....				2490	5580	7180	980	460	460	615	460	
15.....				3240	5970	7180	885	460	460	535	460	
16.....				3960	6240	6240	932	390	460	615		
17.....				3960	7180	5970	790	390	535	700		
18.....				2560	7740	6100	790	390	535	700		
19.....				2210	7600	5450	790	390	460	615		
20.....				2560	7600	5840	790	390	460	615		
21.....				3000	7880	6510	745	390	460	615		
22.....				3320	8580	5450	790	390	390	700		
23.....				4050	9000	4820	1080	460	460	790		
24.....				3860	9700	4050	838	460	460	790		
25.....				3000	9560	3670	790	460	460	700		
26.....				3160	9140	3320	790	460	460	700		
27.....				3490	8440	2850	700	460	460	658		
28.....				3160	8580	2560	790	535	425	615		
29.....			1240	2780	9280	2280	790	535	390	535		
30.....			1400	2920	9000	2000	790	460	390	615		
31.....			1510		9280		838	460		535		
Mean.....			1390	2930	6790	6210	1150	514	246	632	501	
Run-off acre-feet.....			8270	174000	418000	370000	70700	31600	26600	38900	14900	

Unless otherwise noted, all discharges are in cubic feet per second.

ELK RIVER AT HINMAN PARK.

Location.—At Hinman Park just above the mouth of South Fork and 8 miles above Clark.

Records Available.—May 25, 1912, to November 30, 1914.

Drainage Area.—61 square miles.

Gage.—Bristol automatic gage.

Channel.—Rough but permanent.

Discharge Measurements.—Made from cable and car.

Winter Flow.—No data, as records were discontinued.

Co-operation.—Station is maintained by the State engineer in co-operation with the Elk River Irrigation & Construction Co.

DISCHARGE MEASUREMENTS ON ELK RIVER AT HINMAN PARK.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 6	C. L. Chatfield.....	1.30	361	June 4	C. L. Chatfield.....	2.80	1202
June 9	C. L. Chatfield.....	1.60	470	June 17	C. L. Chatfield.....	2.00	597
July 30	C. L. Chatfield.....	0.35	105	Aug. 17	C. L. Chatfield.....	0.30	72
Aug. 21	C. L. Chatfield.....	0.10	51				

ELK RIVER NEAR CLARK.

Location.—At Kinney's ranch, 2 miles above Clark postoffice, Colo.

Records Available.—May 1, 1910, to November 30, 1914.

Drainage Area.—206 square miles.

Gage.—Chain gage.

Channel.—Rough but permanent.

Diversions.—There are court decrees for diversions of 4 second-feet from Elk River above this station and 25 second-feet from the tributaries entering above.

Co-operation.—The State engineer maintains the station in co-operation with the Elk River Irrigation & Construction Co.

DISCHARGE MEASUREMENTS ON ELK RIVER AT KINNEY'S RANCH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 18	C. L. Chatfield.....		53*	Apr. 20	C. L. Chatfield.....	3.70	515
May 7	C. L. Chatfield.....	4.85	1117	June 5	C. L. Chatfield.....	6.10	2069
June 9	C. L. Chatfield.....	4.50	928	July 19	C. L. Chatfield.....	3.22	370
July 29	C. L. Chatfield.....	2.50	119	Aug. 16	C. L. Chatfield.....	2.35	98
Aug. 20	C. L. Chatfield.....	2.18	71				
Nov. 1	C. L. Chatfield.....	2.25	81				

*Ice conditions.

ELK RIVER NEAR TRULL.

Location.—Two miles southwest of Trull postoffice on the road between Steamboat Springs and Hayden; below all tributaries; none above the station for several miles.

Records Available.—May 2, 1904, to August 16, 1906; May 1, 1910, to November 30, 1914.

Drainage Area.—415 square miles.

Gage.—Chain gage.

Channel.—Fairly permanent.

Discharge Measurements.—Made from highway bridge.

Diversions.—Between this station and that near Clark there are court decrees for diversions of 111 second-feet from Elk River and 62 second-feet from intervening tributaries. There are no decrees for diversions below the station.

DISCHARGE MEASUREMENTS ON ELK RIVER NEAR TRULL.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 17	C. L. Chatfield.....		63*	June 15	C. L. Chatfield.....	8.63	2492
May 8	C. L. Chatfield.....	8.02	1820				
May 13	C. L. Chatfield.....	8.28	2098				
June 18	C. L. Chatfield.....	7.43	1334				
July 19	C. L. Chatfield.....	5.80	312				

*Ice conditions.

Discharge of Elk River at Hinman Park for 1913.
Drainage Area, 61 Square Miles. Altitude, 7,800 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					330	1020	245	82	60	65	75	
2					392	1060	230	75	55	65	90	
3					538	920	218	70	55	75	90	
4					538	990	218	60	55	82	75	
5					565	1100	205	65	55	90	75	
6					690	1140	180	65	55	90	65	
7					788	1060	140	60	82	70	65	
8					788	885	150	65	75	70	60	
9					722	690	150	65	75	75	60	
10					658	538	150	75	75	90	60	
11					415	370	160	98	82	90	55	
12					438	370	180	98	75	82	55	
13					722	370	140	90	75	65	60	
14					538	370	140	105	60	65	65	
15					260	438	140	105	55	65	50	
16					245	460	130	90	75	60		
17					312	438	120	75	60	60		
18					690	460	130	55	55	60		
19					820	438	150	55	70	60		
20					820	415	105	55	60	60		
21					920	350	112	55	70	60		
22					1100	350	105	60	65	60		
23					1260	370	105	60	65	60		
24				150	1340	415	105	60	60	60		
25				205	955	415	112	55	55	60		
26				260	852	392	112	55	65	60		
27				245	820	415	105	60	65	55		
28				230	755	295	98	55	65	60		
29				295	755	295	90	65	65	55		
30				350	690	245	90	55	60	60		
31					658		75	55		60		
Mean				248	689	569	142	69	65	67	67	
Run-off acre-feet				3440	42400	33900	8730	4240	3870	4120	1980	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Elk River at Hinman Park for 1914.
Drainage Area, 61 Square Miles. Altitude, 7,800 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						1120	505	140	92	60	92	
2.....						1200	390	140	92	85	92	
3.....						1240	390	100	78	85	65	
4.....						1200	390	100	70	110	70	
5.....						1200	370	130	65	120	60	
6.....						980	370	150	85	120	55	
7.....						910	410	120	100	120	60	
8.....						840	410	110	140	130	60	
9.....						770	390	92	85	130	50	
10.....						710	390	92	92	130	48	
11.....						980	390	85	85	92	55	
12.....						910	370	78	78	120	60	
13.....						980	350	78	70	150	60	
14.....						1050	350	78	85	140	92	
15.....						980	310	85	92	120	60	
16.....						910	310	85	100	110	48	
17.....						770	310	85	92	150	50	
18.....						875	275	70	85	172	50	
19.....						910	240	78	70	150	65	
20.....						1015	210	65	55	140	50	
21.....						770	150	65	55	160	48	
22.....						710	185	70	65	160	50	
23.....						620	198	78	50	130	50	
24.....						650	150	78	50	140	48	
25.....						680	160	85	78	130	45	
26.....						590	130	92	50	120	48	
27.....						480	150	92	55	120	48	
28.....						430	120	110	55	110	50	
29.....						390	120	100	60	110	50	
30.....						430	120	100	55	110	50	
31.....							140	92	-	100		
Mean.....						843	282	94	76	123	58	
Run-off acre-feet.....						50200	17400	5800	4530	7580	3430	

Unless otherwise noted, all discharges are in cubic feet per second. Results rough.

Discharge of Elk River at Kinney's Ranch near Clark for 1913.
Drainage Area, 206 Square Miles. Altitude, 7,300 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				85	600	1180	510	78	110	92	92	
2				92	1180	1300	420	100	100	70	92	
3				120	860	1180	362	150	70	92	97	
4				140	950	1150	400	130	78	140	62	
5				70	890	1080	362	110	100	172	70	
6				110	1150	980	362	172	110	180	78	
7				130	1180	1080	275	140	100	140	78	
8				140	1300	1180	260	92	110	120	100	
9				120	1340	1150	230	110	78	100	140	
10				130	1040	980	230	150	120	140	92	
11				120	1120	805	215	120	70	172		
12				130	1260	600	185	120	110	150		
13				185	920	670	172	110	140	150		
14				230	860	670	172	100	92	120		
15				292	950	645	172	120	85	130		
16				488	805	420	160	110	100	110		
17				420	950	488	215	100	92	110		
18				465	980	400	185	120	78	140		
19				600	1150	310	185	85	120	172		
20				750	1150	420	185	70	78	78		
21				832	1260	465	185	92	85	78		
22				750	1220	420	200	110	92	85		
23				670	1180	488	245	140	100	100		
24				465	1260	510	310	130	92	100		
25				345	1220	510	230	110	130	92		
26				420	1220	400	200	110	110	70		
27				420	1040	510	172	100	110	78		
28				345	1300	362	140	130	85	130		
29				832	1650	420	130	110	110	120		
30				832	1950	420	110	110	60	130		
31					1180		100	130		92		
Mean				358	1130	706	235	115	97	117	90	
Run-off acre-feet				21300	69500	42000	14400	7080	5780	7200	1780	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Elk River at Kinney's Ranch near Clark for 1914.
Drainage Area, 206 Square Miles. Altitude, 7,300 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				160	555	2660	670	172	100	100	100	
2.....				140	532	3140	600	172	92	120	100	
3.....				150	555	3410	622	185	92	120	92	
4.....				160	670	3230	645	172	85	120	70	
5.....				140	670	1900	532	172	92	120	85	
6.....				160	600	1420	578	172	100	130	78	
7.....				260	750	1220	578	160	100	140	78	
8.....				160	950	1300	532	160	85	140	50	
9.....				140	1340	1120	465	150	92	130	65	
10.....				150	1300	1220	465	150	100	130	65	
11.....				160	1380	1300	420	140	85	130	65	
12.....				140	1300	1560	420	140	85	110	65	
13.....				160	1020	1600	362	140	85	120	78	
14.....				260	1150	1700	362	130	85	110	55	
15.....				260	1180	1340	345	120	78	120	70	
16.....				380	1340	1340	328	120	78	120	60	
17.....				362	1300	1340	345	120	78	130	92	
18.....				362	1260	1340	345	110	70	130	65	
19.....				292	1380	1420	345	100	70	120	85	
20.....				465	1510	1600	310	120	70	120	92	
21.....				600	1800	1260	292	110	140	120	100	
22.....				578	2060	1380	310	110	172	172	110	
23.....				532	2890	1340	275	100	185	150	120	
24.....				555	2580	1180	275	100	160	140	120	
25.....				510	1600	1120	260	85	140	140	120	
26.....				555	1510	1080	260	92	140	120	120	
27.....				510	2310	1010	275	92	140	120	120	
28.....				442	1600	1010	245	85	140	120	120	
29.....				600	1700	890	245	78	120	120	85	
30.....				555	1950	890	215	78	120	110	110	
31.....					2310		215	70		110		
Mean.....				330	1390	1540	401	126	106	135	88	
Run-off acre-feet.....				19600	85500	91600	24700	7750	6300	7700	5230	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Elk River near Trull for 1913.
Drainage Area, 415 Square Miles. Altitude, 6,650 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					1240	2600	585	100	100	80	110	
2.....					1430	2200	555	100	100	80	110	
3.....					1300	2100	475	100	100	80	120	
4.....					1380	2000	528	120	100	80	120	
5.....					1510	2000	500	110	100	90	120	
6.....					1510	2000	475	132	100	100	120	
7.....					1380	1910	378	120	100	120	120	
8.....					1380	1600	355	132	100	120	120	
9.....					1380	1600	310	110	100	120	120	
10.....					1380	1640	310	120	100	120	120	
11.....					1430	1860	290	110	100	120	120	
12.....				475	1640	1340	252	120	100	120	120	
13.....				768	1820	1260	235	120	100	120	120	
14.....				585	1640	1190	235	120	100	120	120	
15.....				585	1470	1430	220	120	100	120	120	
16.....				768	1380	1190	205	110	100	120	120	
17.....				1040	1280	1430	290	120	100	120	120	
18.....				1260	1280	1510	252	110	100	120	120	
19.....				1260	1560	1430	252	100	100	120	120	
20.....				1340	1560	1190	252	110	80	120	120	
21.....				1340	1600	1110	252	120	80	120	120	
22.....				1430	1510	1000	270	100	80	120	120	
23.....				1470	1470	962	332	100	80	120	120	
24.....				1220	1200	1000	475	110	100	120	120	
25.....				822	2200	1150	310	120	100	120	120	
26.....				1260	2200	1040	270	90	100	120	120	
27.....				1260	2600	962	235	100	90	120	120	
28.....				1260	2350	898	205	100	80	120	120	
29.....				1640	2500	898	175	100	80	120	120	
30.....				1640	2800	670	145	100	100	120	120	
31.....					2650		120	100		120		
Mean.....				1130	1690	1440	314	110	96	113	119	
Run-off acre-feet.....				42600	104000	85700	19300	6760	5710	6950	7080	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Elk River near Trull for 1914.
Drainage Area, 415 Square Miles. Altitude, 6,650 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						3120	1220	290	160	110	190	
2.....						3400	1190	332	145	110	175	
3.....						3450	1040	290	132	120	160	
4.....						3400	962	270	132	220	160	
5.....						3340	962	252	110	220	132	
6.....						3020	898	252	120	220	132	
7.....						2800	930	175	110	235	120	
8.....						2800	930	205	100	252	110	
9.....						2300	930	190	100	252	120	
10.....						1960	768	190	110	252	100	
11.....						2450	702	175	100	252	110	
12.....						2750	648	175	110	235	110	
13.....						3280	648	190	110	252	132	
14.....						3070	585	175	132	220	132	
15.....						2910	648	175	160	220	132	
16.....						2910	615	132	160	252	132	
17.....					2860	2960	528	145	145	252	110	
18.....					2910	2500	500	160	120	252	110	
19.....					2910	2350	475	132	90	252	132	
20.....					3120	2700	528	132	90	270	110	
21.....					3120	2450	585	160	100	270	100	
22.....					3230	2400	585	190	110	290	110	
23.....					3230	2350	475	175	110	290	100	
24.....					3340	2200	332	132	120	252	100	
25.....					3120	1910	378	160	100	252	90	
26.....					2800	1770	290	190	90	252	90	
27.....					3180	1430	290	160	90	235	100	
28.....					3340	1380	310	190	90	220	100	
29.....					3230	1300	332	190	100	205	120	
30.....					3180	1220	332	190	90	220	110	
31.....					3180		332	175		190		
Mean.....					3120	2530	644	192	116	226	121	
Run-off acre-feet.....					93400	151000	39600	11800	6820	14100	7200	

Unless otherwise noted, all discharges are in cubic feet per second.

WILLOW CREEK AT RYAN'S RANCH, NEAR BAGGS, WYO.

Location.—In Colorado, about sec. 26, T. 11 N., R. 90 W., 2 miles northeast of Ryan's ranch house and 22 miles southeast of Baggs, Wyo. No important tributary between the station and the mouth of Willow Creek.

Records Available.—May 4, 1912, to November 8, 1914.

Drainage Area.—Approximately 5 square miles.

Gage.—Bristol automatic gage.

Channel.—Small cobblestones, placed especially for the station.

Discharge Measurements.—No data.

Co-operation.—Station maintained by the State engineer in co-operation with the Elk River Irrigation & Construction Co.

DISCHARGE MEASUREMENTS ON WILLOW CREEK AT RYAN'S RANCH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 28	Chatfield & Finley.....	0.62	44	Apr. 16	C. L. Chatfield.....	0.10	10
June 24	W. P. Finley.....	0.30	8.9	June 10	C. L. Chatfield.....	1.00	38
July 26	C. L. Chatfield.....	-0.18	4.24				
Sept. 27	W. P. Finley.....	-0.50	3.02				

MAD CREEK NEAR STEAMBOAT SPRINGS.

Location.—At highway bridge on road to Hahns Peak, 6 miles from Steamboat Springs.

Records Available.—July 1, 1912, to June 30, 1914.

Drainage Area.—40 square miles.

Gage.—Vertical staff.

Channel.—Rough but permanent.

Discharge Measurements.—Made from bridge.

Winter Flow.—No data, as records were discontinued.

Co-operation.—The State engineer maintains the station in co-operation with Mr. F. A. Metcalf, of Steamboat Springs.

DISCHARGE MEASUREMENTS ON MAD CREEK NEAR STEAMBOAT SPRINGS.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 5	C. L. Chatfield.....	2.00	181	Apr. 21	C. L. Chatfield.....	1.65	85
May 7	C. L. Chatfield.....	2.22	243	June 17	C. L. Chatfield.....	2.60	481
June 6	C. L. Chatfield.....	2.40	410	Aug. 16	C. L. Chatfield.....	0.80	10
June 9	C. L. Chatfield.....	2.35	365				
June 18	C. L. Chatfield.....	2.28	310				
Aug. 1	C. L. Chatfield.....	1.00	16				
Aug. 22	C. L. Chatfield.....	0.71	6.1				

SODA CREEK AT STEAMBOAT SPRINGS.

Location.—At the Main Street Bridge at Steamboat Springs, below all tributaries, the nearest being a small creek that enters from the east about 2 miles above.

Records Available.—June 8, 1910, to August 31, 1911; April 24, 1913, to October 6, 1914.

Drainage Area.—47 square miles.

Gage.—Chain gage.

Channel.—Practically permanent.

Discharge Measurements.—Made from highway bridge.

DISCHARGE MEASUREMENTS ON SODA CREEK AT STEAMBOAT SPRINGS.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 27	C. L. Chatfield.....	2.20	72	Apr. 18	C. L. Chatfield.....	2.32*	58
Apr. 28	C. L. Chatfield.....	2.50	104	May 11	C. L. Chatfield.....	2.98	207
May 3	C. L. Chatfield.....	2.45	113	June 3	C. L. Chatfield.....	3.68	439
May 7	C. L. Chatfield.....	2.80	215	July 15	C. L. Chatfield.....	1.20	19
June 4	C. L. Chatfield.....	2.78	185	Aug. 13	C. L. Chatfield.....	0.80	1.35
July 16	C. L. Chatfield.....	1.24	4.88				
July 17	C. L. Chatfield.....	1.27	4.75				
Aug. 2	C. L. Chatfield.....	1.05	1.12				
Aug. 16	C. L. Chatfield.....	0.98	0.52				
Sept. 1	C. L. Chatfield.....	0.95	0.38				
Sept. 2	C. L. Chatfield.....	1.00	0.49				

*New gage installed Apr. 6, 1914.

Discharge of Willow Creek at Ryan's Ranch for 1913.
Drainage Area, 5 (approximated) Square Miles. Altitude, 8,000
Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					26	36	9	4.4	3.2	2.9	3.8	
2.....					19	31	7.5	4.4	3.4	2.9	3.6	
3.....					16	26	8	4	3.5	3	3.8	
4.....					16	22	8	4.4	3.4	3.2	3.8	
5.....					14	22	9	4	3.5	3.4	3.5	
6.....					19	22	8	4	3.1	3.4	3.2	
7.....					22	19	9	3.8	3.1	3.4	3.4	
8.....					22	19	9	3.8	3.2	3.4	3.8	
9.....					31	16	8	3.8	3.4	3.5		
10.....					42	13	9	3.8	3.2	3.5		
11.....					42	16	10.5	3.4	3.1	3.5		
12.....					42	13	9	3.4	3.0	3.8		
13.....					36	15	15	3.4	3.1	3.2		
14.....					26	13	15	3.5	3.1	3.1		
15.....					26	7	13	3.5	3.4	3.1		
16.....				14	26	7	10.5	3.2	3.1	3.1		
17.....				16	31	9	10.5	3.4	2.9	3		
18.....				14	42	9	10.5	3.5	2.9	3.1		
19.....				19	31	11	11	3.5	3	3.1		
20.....				19	26	11	10	3.5	3	3.1		
21.....				19	22	7.5	10	3.4	2.8	3.2		
22.....				19	22	6	8	3.4	2.9	3.2		
23.....				11	31	5.2	7	3.4	2.8	3.1		
24.....				14	48	7.5	6	3.4	2.8	3.5		
25.....				10	42	9	5.4	3.4	2.8	3.5		
26.....				11	42	9	4.4	3.1	2.9	3.5		
27.....				16	48	11	4.4	3.2	3	3.5		
28.....				22	54	13	4.4	3.2	2.9	3.5		
29.....				26	48	9	4.4	3.2	2.9	3.5		
30.....				26	48	9	4.4	3.4	2.8	3.5		
31.....					42		4.4	3.5		3.8		
Mean.....				17	32.3	14.1	8.5	3.6	3.1	3.3	3.6	
Run-off acre-feet.....				508	1990	839	523	221	184	203	58	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Willow Creek at Ryan's Ranch for 1914.
Drainage Area, 5 (Approximated) Square Miles. Altitude, 8,000
Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					10	85	21	4	4.5	4.5	3.5	
2.....					9	112	21	4	4.2	5	3.5	
3.....					9	134	21	4	4.2	5.5	3.5	
4.....					13	123	21	4	4.5	7	3.5	
5.....					23	134	20	4	4.5	5	3.5	
6.....					15	134	15	4	4.2	5	3.8	
7.....					18	77	15	4	4.2	5	3.8	
8.....					25	54	15	4	4.5	5.5	3.5	
9.....					27	50	12	3.5	4.2	6.2		
10.....					29	42	21	3.5	4.2	7		
11.....					27	45	18	3.5	4.2	5.5		
12.....					21	64	10	3.5	4.5	5		
13.....				7	20	64	10	3.5	4.5	4.5		
14.....				7	21	54	10	3.5	4.5	5		
15.....				8	25	38	10	3.5	5.0	4.2		
16.....				9	29	42	10	3.2	5.0	4.2		
17.....				7	29	42	10	3.0	4.5	4.5		
18.....				6.2	31	45	10	3.2	4.5	4.5		
19.....				6.2	31	50	7	3.5	4.5	4.5		
20.....				9	31	45	7	3.5	4.5	4.2		
21.....				10	36	36	7	3.8	4.5	4		
22.....				10	45	33	7	3.5	4.2	4.2		
23.....				11	59	31	7	3.2	4.2	4		
24.....				9	64	31	7	3.2	4.5	4		
25.....				9	38	31	7	3.5	5.0	3.8		
26.....				7	38	29	7	3.5	5.0	3.8		
27.....				7	38	29	6	3.5	4.5	3.8		
28.....				7	42	25	7	3.5	4.5	3.5		
29.....				7	45	25	7	3.5	4.5	3.5		
30.....				8	54	25	7	3.8	4.5	3.8		
31.....					54		7	4.0		3.8		
Mean.....				8	31	58	11.8	3.6	4.5	4.6	3.6	
Run-off acre-feet.....				287	1900	3430	726	222	267	286	56	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Mad Creek near Steamboat Springs for 1913.
Drainage Area, 40 Square Miles. Altitude, 6,740 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				2	182		126	8	5.5	10		
2.....				2	182		114	7	5.5	8		
3.....				2	222		103	7	5.5	8		
4.....				2	222		103	8	5.5	10		
5.....				2	222		83	10	5	12		
6.....				2	182		66	12	5	14.5		
7.....				2	304		66	12	6			
8.....				2	335	405	74	10	6	23		
9.....				2	335	405	66	8	8	20		
10.....				2	405	405	66	10	6	17		
11.....				2	405	538	66	10	6	14.5		
12.....				2	490	490	66	12	6	10		
13.....				2.5	585	247	52	8	6	20		
14.....				2.8	405	247	74	8	6	23		
15.....				3	405	405	59	8	6	20		
16.....				3	272	370	40	6	6	20		
17.....				3.2	182	490	40	6	6	20		
18.....				3.2	272	405	40	6	6	17		
19.....				3.2	272	405	40	6	5.5	20		
20.....				4	182	247	31	6	5.5	14.5		
21.....				4	182	222	46	6	6	14.5		
22.....				4	222	202	40	5.5	6	20		
23.....				5	335	222	59	5.5	7	14.5		
24.....				6	335	202	52	5.5	8	14.5		
25.....				3.5	335	448	40	5.5	12	12		
26.....				8	335	272	31	5.5	12	12		
27.....				52	405	222	27	6	12	12		
28.....				182	490	182	23	6	12	14.5		
29.....				182	585	167	20	5.5	12	12		
30.....				182	690	139	12	5.5	12	12		
31.....					815		8	5.5		14.5		
Mean.....				22.6	348	319	56	7.4	7.2	15.1		
Run-off acre-feet.....				1340	21400	14600	3440	455	428	898		

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Mad Creek near Steamboat Springs for 1914.
Drainage Area, 40 Square Miles. Altitude, 6,740 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					139	1450						
2.....					126	1220						
3.....					126	1320						
4.....					139	1450						
5.....				36	139	1120						
6.....				52	152	1220						
7.....				59	139	1120						
8.....				46	167	1450						
9.....				114	182	1580						
10.....				31	202	1220						
11.....				46	202	965						
12.....				93	247	1120						
13.....				59	247	890						
14.....				126	272	752						
15.....				152	304	752						
16.....				182	304	752						
17.....				152	1040	890						
18.....				126	304	538						
19.....				114	335	538						
20.....				152	1580	405						
21.....				139	1880	405						
22.....				114	1880	335						
23.....				167	1880	335						
24.....				139	1720	272						
25.....				114	2050	272						
26.....				126	1720	304						
27.....				114	965	304						
28.....				114	1120	272						
29.....				126	1220	222						
30.....				126	1450	222						
31.....					1720							
Mean.....				108	773	790						
Run-off acre-feet.....				5590	47500	47000						

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Soda Creek at Steamboat Springs for 1913.
Drainage Area, 47 Square Miles. Altitude, 6,680 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					124	161	30	1.2	0.5			
2.....					113	192	22	1.2	0.5			
3.....					97	225	19	1.2	0.5			
4.....					97	176	13.5	1.2	0.5			
5.....					113	113	11	1.2	0.5			
6.....					113	97	11	1.2	0.5			
7.....					161	161	9.2	0.5	0.5			
8.....					161	84	7.5	0.5	0.5			
9.....					208	97	4.5	0.5	0.4			
10.....					225	113	7.5	0.5	0.4			
11.....					225	97	7.5	0.5	0.4			
12.....					225	84	4.5	1.2	0.4			
13.....					225	84	3.2	0.5	0.4			
14.....					161	84	4.5	0.5	0.5			
15.....					113	84	4.5	0.5	1.2			
16.....					161	72	6	0.5	0.5			
17.....					124	84	7.5	0.4				
18.....					105	72	6	0.4				
19.....					192	51	9.2	0.4				
20.....					225	72	4.5	0.4				
21.....					208	51	4.5	0.4				
22.....					176	51	4.5	0.4				
23.....					208	35	6	0.4				
24.....				72	124	42	9.2	0.3				
25.....				66	161	51	13.5	0.3				
26.....				66	192	51	7.5	0.4				
27.....				84	225	35	7.5	0.4				
28.....				97	225	35	3.2	0.4				
29.....				124	192	28	2	0.4				
30.....				113	161	25	2	0.4				
31.....					161		8.2	0.4				
Mean.....				89	168	87	8.2	0.6	0.5			
Run-off acre-feet.....				1230	10300	5170	504	37	16			

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Soda Creek at Steamboat Springs for 1914.
Drainage Area, 47 Square Miles. Altitude, 6,680 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					57	410	72	2	11	2		
2.....					57	490	57	2	2.5	2		
3.....					64	358	41	2	2	2		
4.....					64	322	41	2	1.5	2		
5.....					57	305	45	1	1.5	4		
6.....				51	57	322	37	1	1.5	5		
7.....				45	57	270	28	1.5	1			
8.....				26	90	182	24	2	1			
9.....				28	148	148	22	1.5	1			
10.....				22	157	196	14	1.5	1			
11.....				26	157	225	15	1.5	0.8			
12.....				28	122	305	14	1	0.8			
13.....				24	134	322	11	1	1			
14.....				31	134	340	9	1	1.5			
15.....				51	157	340	9	1	2			
16.....				51	210	305	8	1	2.5			
17.....				57	210	270	7	1	1.5			
18.....				64	240	240	6	1	1			
19.....				64	270	270	4	1	1			
20.....				64	240	358	4	1	2			
21.....				64	358	375	4	1	3			
22.....				57	375	375	5	1.5	2.5			
23.....				57	358	210	6	1.5	2			
24.....				57	322	157	4	1	2			
25.....				64	322	225	3.5	1	2			
26.....				57	270	157	3	1.5	2			
27.....				57	340	111	3	2	2			
28.....				57	270	90	3	1.5	2			
29.....				57	322	90	3	1.5	2			
30.....				57	322	81	2.5	1.5	1.5			
31.....					340		2.5	2				
Mean.....				48	203	262	16	1.3	2	2.8		
Run-off acre-feet.....				2410	12500	15600	1010	85	117	34		

Unless otherwise noted, all discharges are in cubic feet per second.

ELK HEAD CREEK NEAR CRAIG, COLO.

Location.—One mile above the mouth at bridge on road between Steamboat Springs and Craig, the latter being 6 miles west. No tributary between the station and the mouth and none for several miles above.

Records Available.—April 27 to September 7, 1906; April 17, 1910 to November 30, 1914.

Drainage Area.—249 square miles.

Gage.—Chain gage.

Channel.—Practically permanent.

Diversions.—There are court decrees for diversions of 45 second-feet from Elk Head Creek above the station and 48 second-feet from tributaries entering above. In addition, there are conditional decrees for reservoir diversions of 177,000 acre-feet from Elk Head Creek and a diversion of 587 second-feet from the North Fork.

DISCHARGE MEASUREMENTS ON ELK HEAD CREEK NEAR CRAIG.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 10	C. L. Chatfield.....		11*	Apr. 8	C. L. Chatfield.....	5.82	197
May 15	C. L. Chatfield.....	6.14	288	May 13	C. L. Chatfield.....	8.66	859
June 2	C. L. Chatfield.....	4.80	93	June 30	C. L. Chatfield.....	4.52	42
July 19	C. L. Chatfield.....	3.50	0.8				

*Ice conditions.

FORTIFICATION CREEK AT CRAIG.

Location.—One-eighth mile east of Craig on the road to Hayden. No tributaries between the station and the mouth, and none for some distance above.

Records Available.—June 12, 1905 to July 30, 1906; March 5, 1910 to November 21, 1914.

Drainage Area.—256 square miles.

Gage.—Chain gage.

Channel.—Very shifting.

Discharge Measurements.—Made from bridge.

Diversions.—There are court decrees for diversions of 91 second-feet from Fortification Creek above the station and 20 second-feet from tributaries entering above. There is also a conditional decree for a diversion of 235,000 acre-feet from Fortification Creek.

DISCHARGE MEASUREMENTS ON FORTIFICATION CREEK AT CRAIG.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 18	C. L. Chatfield.....	3.80	52	Apr. 9	C. L. Chatfield.....	5.05	152
May 30	C. L. Chatfield.....	3.40	28	Apr. 17	C. L. Chatfield.....	5.62	222
				May 14	C. L. Chatfield.....	6.74	344
				June 12	C. L. Chatfield.....	5.20	143
				June 30	C. L. Chatfield.....	3.30	1.0
				Sep. 10	C. L. Chatfield.....		0.2*

*Est. almost dry.

WILLIAMS RIVER AT HAMILTON.

Location.—Near Hamilton, at highway bridge, on the road from Meeker to Craig. Morapos Creek, the nearest tributary, enters some distance below the station.

Records Available.—April 29, 1904 to October 31, 1906; April 15, 1910 to November 30, 1914.

Drainage Area.—341 square miles.

Gage.—Chain gage.

Channel.—Shifting.

Discharge Measurements.—Made from highway bridge.

Diversions.—There are court decrees for diversions of 40 second-feet from Williams River above the station, and 7 second-feet below. There are also decrees for diversions of 87 second-feet from tributaries entering above.

DISCHARGE MEASUREMENTS ON WILLIAMS RIVER AT HAMILTON.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 8	C. L. Chatfield.....		42*	May 14	C. L. Chatfield.....	5.85	965
May 25	C. L. Chatfield.....	4.95	658	June 20	C. L. Chatfield.....	4.44	382
May 26	C. L. Chatfield.....	5.54	864	Aug. 8	C. L. Chatfield.....	3.08	82
July 24	C. L. Chatfield.....	3.90	317				
Oct. 22	C. L. Chatfield.....	2.95	72				

*Ice conditions.

Discharge at Elk Head Creek near Craig, for 1913.
Drainage Area, 249 Square Miles. Altitude, 6200 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					788	101	1	4	0.5	4	7	10
2.....					655	83	1	4	0.5	4	7	10
3.....					530	72	1	4	0.5	4	10	10
4.....					530	62	1	4	0.5	4	10	10
5.....					500	58	1	1	0.5	4	10	10
6.....					570	49	1	1	0.5	8.5	10	10
7.....					644	45	1	1	0.5	18	10	10
8.....					611	38	1	1	0.5	12	10	10
9.....					520	38	1	1	0.5	8.5	10	10
10.....					490	38	1	1	0.5	7	10	10
11.....				120	490	34	1	1	0.5	7	10	10
12.....				179	460	34	1	1	0.5	7	10	10
13.....				263	440	31	1	1	0.5	7	10	10
14.....				355	364	31	1	1	0.5	7	10	
15.....				480	290	31	1	1	0.5	7	18	
16.....				540	263	31	1	1	0.5	7	15	
17.....				590	254	31	1	1	0.5	7	15	
18.....				622	236	20	1	1	0.5	7	15	
19.....				677	236	15	1	0.5	0.5	7	15	
20.....				699	228	7	1	0.5	0.5	7	15	
21.....				765	236	7	2.5	0.5	0.5	7	12	
22.....				644	220	7	10	0.5	0.5	7	10	
23.....				550	195	7	20	0.5	0.5	10	10	
24.....				412	236	7	15	0.5	10	10	10	
25.....				355	236	7	8.5	0.5	5.5	10	10	
26.....				272	195	4	8.5	0.5	4	7	10	
27.....				440	195	4	7	0.5	4	7	10	
28.....				550	179	4	7	0.5	4	7	10	
29.....				732	163	4	7	0.5	4	7	10	
30.....				904	127	2.5	4	0.5	4	7	10	
31.....					107		4	0.5		7		
Mean.....				507	361	30.2	3.7	1.2	1.6	7.4	11	10
Run-off acre-feet.....				20100	22200	1800	228	74	95	455	655	258

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Elk Head Creek near Craig for 1914.
Drainage Area, 249 Square Miles. Altitude, 6200 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				150	490	450	24	10	4	4	10	
2.....				180	500	420	15	8	4	4	10	
3.....				267	610	400	15	6	3	4	10	
4.....				430	663	360	10	6	3	4	10	
5.....				225	915	370	10	6	3	15	10	
6.....				410	685	331	10	6	3	10	8	
7.....				410	696	350	10	6	3	6	6	
8.....				258	890	380	8	6	3	18	6	
9.....				250	1150	380	10	6	3	24	6	
10.....				233	1270	303	6	4	3	27	6	
11.....				250	1270	250	6	4	3	20	4	
12.....				276	904	233	6	4	3	20	4	
13.....				267	708	218	6	4	3	15	4	
14.....				303	819	188	6	4	4	15	4	
15.....				480	852	172	6	4	6	15	4	
16.....			165	600	840	172	6	4	12	15	4	
17.....			180	520	958	150	6	4	6	15	4	
18.....			165	312	1030	121	6	4	6	15	4	
19.....			128	250	930	114	6	4	6	15	4	
20.....			76	294	944	100	6	4	6	12	4	
21.....			46	590	973	158	6	4	4	12	6	
22.....			50	631	930	114	15	3	4	15	6	
23.....			55	865	917	107	10	3	4	24	6	
24.....			55	520	1000	88	10	3	4	27	6	
25.....			65	400	696	76	10	3	4	24	6	
26.....			107	480	570	65	10	3	4	15	6	
27.....			202	600	530	50	10	4	4	12	6	
28.....			180	400	550	46	10	4	4	12	6	
29.....			225	410	520	41	15	4	4	12	6	
30.....			150	390	460	38	10	4	4	10	6	
31.....			142		460		10	4		10		
Mean.....			124	388	798	208	9.4	4.5	4.2	14.4	6.1	
Run-off acre-feet.....			3950	23100	49000	12400	583	276	253	885	361	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge at Fortification Creek at Craig for 1913.
Drainage Area, 256 Square Miles. Altitude, 6,185 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					210	18	0	0	2	1	1	12
2.....					175	12	0	0	0	1	1	12
3.....					140	9	0	0	0	0.5	4	12
4.....					140	6	0	0	0	0.5	6	12
5.....					120	5	0	0	0	25	6	7
6.....					130	3	0	0	0	17	3	7
7.....					170	2	0	0	0	10	4	
8.....					150	2	0	0	3	6	5	
9.....					140	2	0	0	35	4	5	
10.....					130	3	0	0	5	7	5	
11.....					130	2	0	0	2	7	3	
12.....				50	122	1	0	0	1	6	3	
13.....				92	110	2	0	0	1	6	7	
14.....				140	100	2	0	0	1	4	9	
15.....				190	75	1	0	0	1	3	7	
16.....				180	55	0	0	0	2	4	7	
17.....				180	50	0	0	0	2	4	5	
18.....				185	55	0	0	0	2	4	5	
19.....				190	55	0	0	0	2	2	4	
20.....				200	50	0	40	0	0.5	1	4	
21.....				220	50	0	10	0	0.5	1	7	
22.....				180	35	0	10	0	0.5	5	10	
23.....				130	35	0	10	0	32	4	10	
24.....				95	35	0	9	0	8	3	9	
25.....				85	40	0	8	0	7	4	9	
26.....				85	45	0	0	0	3	4	10	
27.....				92	50	0	0	0	3	4	12	
28.....				122	30	0	0	0	1	6	14	
29.....				200	30	0	0	0	2	6	10	
30.....				210	30	0	0	0	2	4	12	
31.....					25		0	17		2		
Mean.....				149	87	2.3	2.8	0.55	4	5	6.6	10.3
Run-off acre-feet.....				5600	5350	137	172	34	238	307	393	123

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge at Fortification Creek at Craig for 1914.
Drainage Area, 256 Square Miles. Altitude, 6,185 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				545	175	270	3	5	0	1	1	
2.....				622	200	300	3	2	0	3	1	
3.....				654	396	270	3	1	0	2	1	
4.....				638	309	255	7	2	0	7	1	
5.....				594	303	305	7	1	0	10	1	
6.....				522	291	232	7	1	0	7	1	
7.....				403	210	226	3	1	0	3	1	
8.....				243	285	232	3	5	0	90	2	
9.....				160	417	200	1	1	0	66	3	
10.....				175	501	152	1	0.5	0	28	5	
11.....				118	487	148	1	0	0	16	10	
12.....				115	333	138	1	0	0	16	5	
13.....				135	267	125	1	0	0	13	3	
14.....				150	309	134	2	0	1	3	5	
15.....			445	267	375	112	2	0	5	1	3	
16.....			614	297	345	90	1	0	2	3	3	
17.....			646	255	351	70	1	0	1	5	3	
18.....			654	155	389	59	1	0	0.5	5	2	
19.....			417	115	333	56	1	0	0	5	5	
20.....			237	150	356	52	1	0	5	5	5	
21.....			220	237	400	66	1	0	3	7	5	
22.....			120	261	425	52	1	0	3	7		
23.....			165	309	485	38	1	1	3	25		
24.....			237	261	485	25	1	1	2	16		
25.....			375	170	375	16	1	0	1	19		
26.....			452	190	295	13	1	0	1	7		
27.....			750	261	265	5	1	0	1	3		
28.....			726	205	305	7	1	0	3	2		
29.....			606	160	320	7	1	0	0.5	1		
30.....			598	165	275	5	66	0	0	1		
31.....			598		265		45	0		1		
Mean.....			462	284	340	122	5.5	0.7	1.1	12.2	3.1	
Run-off acre-feet....			15600	16900	20900	7260	337	43	64	750	131	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Williams River at Hamilton for 1913.
Drainage Area, 341 Square Miles. Altitude, 6,400 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				985	755	678	135	95	50	95	50	
2.....				875	795	538	125	95	72	95	50	
3.....				918	678	505	118	88	58	95	45	
4.....				358	538	475	102	88	235	110	45	
5.....				345	590	490	95	95	185	95	40	
6.....				332	795	460	88	95	118	95	40	
7.....				282	918	445	72	95	110	95	45	
8.....				258	815	385	72	80	125	95	40	
9.....				185	815	385	65	80	95	95	40	
10.....				195	895	400	72	80	88	95	40	
11.....				245	1120	400	65	80	80	95	30	
12.....				258	1120	385	65	80	88	95	30	
13.....				295	1150	320	65	80	88	110	30	
14.....				308	835	308	65	80	88	125	40	
15.....				370	755	295	65	65	95	95	35	
16.....				415	695	295	72	65	80	95	35	
17.....				475	625	270	65	65	88	80	35	
18.....				572	678	270	135	65	80	80	30	
19.....				590	755	270	225	65	80	80	30	
20.....				608	755	245	195	65	80	65	30	
21.....				608	475	235	215	65	80	65	40	
22.....				505	415	225	205	65	102	65	50	
23.....				475	475	225	270	65	110	58	45	
24.....				370	642	225	320	50	95	45	40	
25.....				358	715	225	185	50	95	45	35	
26.....				358	755	205	145	50	95	50	35	
27.....				445	755	185	118	50	95	50	35	
28.....				608	678	165	102	50	95	50	35	
29.....				678	755	155	95	50	95	50	35	
30.....				895	775	155	95	50	95	65	30	
31.....					735		95	50		65		
Mean				472	750	327	123	71	98	80	38	
Run-off acre-feet.....				28100	46100	19500	7560	4370	5830	4920	2260	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Williams River at Hamilton for 1914.
Drainage Area, 341 Square Miles. Altitude, 6,400 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				98	328	1310	315	130	75	30	75	
2.....				112	370	1220	315	105	90	45	68	
3.....				140	385	1200	290	98	68	52	68	
4.....				160	475	1120	290	90	45	60	68	
5.....				160	542	1100	328	90	45	60	75	
6.....				190	508	1060	265	90	35	60	68	
7.....				180	560	822	240	90	45	82	68	
8.....				150	735	682	200	82	45	112	60	
9.....				130	1040	630	200	75	45	150	60	
10.....				130	1240	665	180	75	30	120	52	
11.....				98	1260	805	200	60	30	105	38	
12.....				130	895	822	180	45	45	98	30	
13.....				150	875	905	180	30	75	90	20	
14.....				170	945	925	150	30	75	90	25	
15.....				230	945	840	140	38	75	82	30	
16.....				328	895	822	140	45	75	82	45	
17.....				265	1000	805	120	45	68	82	45	
18.....				180	1140	770	120	45	60	75	52	
19.....				150	1140	735	120	45	60	75	60	
20.....				200	1120	718	120	45	45	75	60	
21.....				328	1330	665	120	68	45	82	60	
22.....			112	355	1400	630	150	82	45	82	00	
23.....			140	415	1720	578	130	60	45	82	60	
24.....			105	355	1800	525	120	45	45	75	68	
25.....			112	328	1490	508	105	45	45	82	68	
26.....			130	385	1200	475	112	45	38	68	68	
27.....			140	340	1200	430	120	60	38	82	75	
28.....			150	315	1420	370	170	75	30	82	68	
29.....			98	302	1440	370	170	60	30	82	68	
30.....			90	315	1380	340	150	52	30	82	68	
31.....			75		1260		140	52		75		
Mean.....			115	226	1030	762	180	64	51	81	58	
Run-off acre-feet.....			2280	13500	63300	45300	11100	3960	3040	4980	3430	

Otherwise noted, all discharges are in cubic feet per second.

MIDDLE FORK OF LITTLE SNAKE RIVER AT GARDNER'S RANCH.

Location.—At Gardner's ranch, in sec. 21, T. 11 N., R. 86 W., on the county road bridge 10 miles above Battle Creek.

Records Available.—May 8 to November 8, 1914.

Drainage Area.—152 square miles.

Gage.—Bristol automatic gage.

Channel.—Practically permanent.

Discharge Measurements.—From bridge.

Co-operation.—The State engineer maintains the station in co-operation with the Elk River Irrigation & Construction Co.

DISCHARGE MEASUREMENTS ON MIDDLE FORK OF LITTLE SNAKE RIVER AT GARDNER'S RANCH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 12	C. L. Chatfield.....		15.5*	Apr. 14	C. L. Chatfield.....	1.54	112
June 10	C. L. Chatfield.....	1.85	203	July 19	C. L. Chatfield.....	0.83	40
July 28	C. L. Chatfield.....	0.59	23	Oct. 2	C. L. Chatfield.....	0.60	21
Aug. 26	C. L. Chatfield.....	0.30	10 2				
Oct. 17	Chatfield & Finley....	0.57	14				

*Ice conditions.

SOUTH FORK OF LITTLE SNAKE RIVER AT GARDNER'S RANCH.

Location.—At Gardner's ranch, in sec. 28, T. 12 N., R. 86 W., 10 miles above Battle Creek. No important tributary between the station and the mouth.

Records Available.—May 8 to November 8, 1914.

Drainage Area.—46 square miles.

Gage.—Bristol automatic gage.

Channel.—Practically permanent.

Discharge Measurements.—From bridge.

Diversions.—There are decrees for adjudicated diversions of 8 second-feet from the South Fork.

Co-operation.—The State engineer maintains the station in co-operation with the Elk River Irrigation & Construction Co.

DISCHARGE MEASUREMENTS ON SOUTH FORK OF LITTLE SNAKE RIVER AT GARDNER'S RANCH.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 13	C. L. Chatfield.....		5.4*	Apr. 14	C. L. Chatfield.....	1.52	55
June 10	C. L. Chatfield.....	1.20	25	July 19	C. L. Chatfield.....	1.03	13.3
July 28	C. L. Chatfield.....	0.78	3.12	Oct. 3	C. L. Chatfield.....	1.12	16
Aug. 26	C. L. Chatfield.....	0.70	2.24				
Oct. 17	Chatfield and Finley..	0.97	9.8				

*Ice conditions.

LITTLE SNAKE RIVER NEAR DIXON, WYO.

Location.—One mile west of Dixon, Wyo., in sec. 6, T. 12 N., R. 90 W. Nearest tributaries are Cottonwood Creek, which enters a short distance east of Dixon, and Willow Creek, which enters a mile or less downstream.

Records Available.—May 27, 1910 to November 30, 1914.

Drainage Area.—1,294 square miles.

Gage.—Chain gage.

Channel.—Slightly shifting during high water.

DISCHARGE MEASUREMENTS ON LITTLE SNAKE RIVER NEAR DIXON, WYO.

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 11	C. L. Chatfield .. .		99*	Apr. 15	C. L. Chatfield.....	4.04	1731
Feb. 13	C. L. Chatfield.....		92*	June 10	C. L. Chatfield.....	4.80	2380
May 29	C. L. Chatfield.....	4.70	2332	July 20	C. L. Chatfield.....	0.90	75
June 11	C. L. Chatfield	2.97	993				
July 26	C. L. Chatfield.....	0.80	93				
Aug. 26	C. L. Chatfield.....	0.40	10.5				
Oct. 16	Chatfield and Finley..	1.07	147				

*Ice conditions.

Discharge of Middle Fork of Little Snake River at Gardner's Ranch for 1913.

Drainage Area, 152 Square Miles. Altitude, 7,000 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					563	328	120	20	16	26	26	
2.....					431	313	120	18	20	26	23	
3.....					401	261	110	18	18	29	23	
4.....					416	261	100	20	13	45	20	
5.....					497	235	92	13	16	49	23	
6.....					629	235	100	23	16	35	20	
7.....					648	209	100	23	20	26	23	
8.....					612	235	110	18	16	32	18	
9.....					684	222	100	18	18	32	23	
10.....					758	174		18	18	29	20	
11.....					758	186		16	13	29	20	
12.....					740	163		16	13	26	23	
13.....					666	174	110	16	12	38	23	
14.....					563	163	110	13	13	45	23	
15.....				174	464	152	140	13	20	41	20	
16.....				186	431	140	130	13	16	26		
17.....				222	431	140	163	13	13	29		
18.....				300	480	140	163	12	13	23		
19.....				371	464	140		13	13	23		
20.....				371	416	152		13	13	20		
21.....				386	356	152		13	13	20		
22.....				342	300	152		13	20	23		
23.....				248	287	140	45	13	29	23		
24.....				209	287	152	49	13	23	26		
25.....				209	274	186	32	12	20	29		
26.....				235	287	163	32	12	23	18		
27.....				300	261	140	26	10	23	26		
28.....				431	300	130	23	9	23	23		
29.....				546	261	130	23	9	23	29		
30.....				629	274	120	20	10	23	29		
31.....					287		20	18		23		
Mean.....				322	459	182	85	15	18	29	22	
Run-off acre-feet.....				10200	28200	10800	4040	922	1070	1780	651	

Unless otherwise noted, all discharges are in cubic feet per second.

**Discharge of Middle Fork of Little Snake River at Gardner's
Ranch for 1914.**

**Drainage Area, 152 Square Miles. Altitude, 7,000 Feet Above Sea
Level.**

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					328	962	92	29	18	18	26	
2.....					342	982	83	29	18	23	26	
3.....					328	859	83	26	16	26	26	
4.....					416	859	100	26	16	38	26	
5.....					431	740	110	23	13	29	29	
6.....					401	629	70	20	13	32	29	
7.....					448	596	59	20	13	35	26	
8.....					703	530	54	23	13	49	26	
9.....					982	464	54	23	12	59		
10.....					1117	431	49	18	10	54		
11.....					900	401	49	18	13	49		
12.....					703	401	41	18	13	35		
13.....					703	386	38	18	18	35		
14.....				130	798	356	41	18	18	82		
15.....				140	859	313	49	18	23	35		
16.....				152	982	300	38	16	35	41		
17.....				120	1117	274	35	13	32	41		
18.....				100	1117	248	35	18	23	41		
19.....				110	1186	235	32	18	20	35		
20.....				163	1211	287	35	16	18	35		
21.....				261	1162	248	35	18	36	35		
22.....				401	1285	209	49	23	23	49		
23.....				416	1460	209	38	32	18	59		
24.....				342	1310	163	35	18	18	45		
25.....				313	1117	140	32	18	18	45		
26.....				313	1027	92	35	18	18	35		
27.....				287	941	120	35	23	18	32		
28.....				274	1072	100	29	20	18	32		
29.....				300	982	92	35	18	18	29		
30.....				313	941	83	35	18	18	32		
31.....					941		35	18		32		
Mean.....				243	881	391	50	20	19	38	27	
Run-off acre-feet.....				8200	54200	23200	3050	1250	1110	2320	424	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of South Fork of Little Snake River at Gardner's Ranch for 1913.

Drainage Area, 46 Square Miles. Altitude 7,000 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					164	113	8	3	4	6	8	
2					143	103	6	2	4	6	8	
3					123	94	4	2	4	6	10	
4					123	84	6	2	3	10	8	
5					123	84	6	3	4	20	8	
6					143	94	3	4	4	13	10	
7					143	74	3	3	3	10	10	
8					143	65	3	3	4	10	10	
9					154	48	2	2	6	10	8	
10					164	40	3	2	3	13	8	
11					123	32	4	2	3	13	8	
12					143	26	3	2	3	10	8	
13					164	32	2	2	3	10	10	
14					143	26	2	2	3	10	13	
15				154	133	20	3	2	4	10	10	
16				143	123	16	3	2	3	8		
17				154	133	13	3	2	3	10		
18				154	133	16	4	2	3	8		
19				164	133	13	6	3	3	8		
20				103	133	16	3	3	3	8		
21				196	133	16	4	3	3	10		
22				154	123	16	4	3	4	13		
23				123	123	10	4	4	9	10		
24				123	133	10	13	3	6	10		
25				113	133	8	6	3	4	13		
26				84	133	16	4	2	6	10		
27				143	133	13	3	1.5	6	10		
28				143	123	10	2	1.5	6	10		
29				164	123	10	2	2	6	10		
30				164	123	8	2	3	6	13		
31					123		2	4		10		
Mean				142	135	37	4	2.5	4.2	10.2	9.1	
Run-off acre-feet				4520	8300	2200	246	154	250	627	272	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of South Fork of Little Snake River at Gardner's Ranch for 1914.

Drainage Area, 46 Square Miles. Altitude 7,000 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					105	164	20	13	10.5	16	20	
2.....					125	164	20	13	10.5	20	16	
3.....					115	143	20	10.5	8	20	16	
4.....					125	143	20	8	10.5	26	16	
5.....					125	143	16	8	10.5	20	20	
6.....					123	133	13	8	10.5	20	20	
7.....					133	123	16	8	8	20	20	
8.....					174	103	16	10.5	8	32	26	
9.....					185	103	20	10.5	8	48		
10.....					206	94	16	8	10.5	40		
11.....					174	94	13	8	13	40		
12.....					164	94	13	8	13	26		
13.....					154	84	10.5	8	13	20		
14.....					59	164	65	13	8	13	20	
15.....					65	174	65	13	8	13	20	
16.....					95	174	65	10.5	8	13	20	
17.....					80	185	65	13	8	13	20	
18.....					60	206	56	13	8	13	20	
19.....					50	206	48	10.5	10.5	13	20	
20.....					60	206	65	13	8	16	16	
21.....					95	206	56	13	10.5	13	16	
22.....					95	218	40	13	13	13	26	
23.....					65	240	48	13	13	13	32	
24.....					48	229	40	13	10.5	13	32	
25.....					55	196	32	13	10.5	16	20	
26.....					105	174	32	13	8	16	20	
27.....					88	164	32	13	10.5	16	20	
28.....					88	196	20	10.5	10.5	13	20	
29.....					88	185	20	13	13	13	20	
30.....					88	185	20	13	10.5	13	20	
31.....						164		13	10.5		20	
Mean.....					76	174	78	14	9.7	12	24	19
Run-off acre-feet.....					2550	10700	4670	873	596	728	1450	306

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Little Snake River at Dixon, Wyo., for 1913.
Drainage Area, 1,294 Square Miles. Altitude, 6,300 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1				1620	2270	1580	111	11	11	42	100	
2				1850	1970	1510	100	20	34	42	111	
3				1370	1440	1340	82	20	27	34	100	
4				1240	1550	1180	74	16	27	49	111	
5				508	1480	1080	65	16	34	100	111	
6				720	1850	991	57	16	34	135	100	
7				612	2230	929	49	11	34	100	100	
8				441	2180	807	42	16	34	100	91	
9				420	2100	749	42	10	34	100	82	
10				382	2270	720	34	11	49	100	82	
11				363	2550	836	16	20	49	91	82	
12				720	2500	693	20	16	34	82	100	
13				1080	2600	612	20	11	34	91	111	
14				1580	2230	533	20	11	34	122	100	
15				1970	1810	508	11	16	34	122	122	
16				1930	1550	462	20	11	42	100	100	
17				2140	1440	401	34	10	49	82	100	
18				1890	1510	382	49	10	34	100	100	
19				2050	1810	382	49	11	34	82	100	
20				2140	1660	325	49	8	27	100	100	
21				2270	1550	289	34	10	20	111	122	
22				1970	1370	238	57	11	27	100	100	
23				1440	1410	223	49	11	34	100	91	
24				960	1550	178	135	11	49	82	100	
25				867	1770	255	122	8	49	82	122	
26				898	2100	363	65	11	49	100	135	
27				1310	2140	238	49	10	49	82	122	
28				1730	1970	178	42	8	49	82	100	
29				2010	2010	178	34	10	49	65	100	
30				2320	1850	163	20	11	34	65	100	
31					1730		20	10		100		
Mean				1350	1890	611	51	12.3	36.6	88	108	
Run-off acre-feet				80300	116000	36400	3140	756	2180	5410	6130	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Little Snake River at Dixon, Wyo., Colorado-
Wyoming Line, for 1914.
Drainage Area, 1,294 Square Miles. Altitude, 6,300 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				390	2060	4380	580	122	27	65	122	
2.....				635	2380	4560	530	100	20	65	122	
3.....				920	2430	4830	435	122	34	74	111	
4.....				1110	2840	4740	390	91	34	82	111	
5.....				1290	3080	5660	530	82	27	82	111	
6.....				2190	2840	4200	458	65	20	100	100	
7.....				1980	2430	3660	330	34	20	100	111	
8.....				1320	3290	3500	238	49	20	288	111	
9.....				980	4290	2840	270	42	20	290	122	
10.....				745	5090	2330	208	49	20	330	100	
11.....				718	4980	2190	178	34	27	178	100	
12.....				580	3750	2330	178	49	20	178	100	
13.....				608	3220	2600	163	49	34	163	100	
14.....				1010	3360	2380	178	49	20	163	100	
15.....				1700	3500	2020	148	34	20	91	100	
16.....				2480	4110	2020	148	34	34	111	100	
17.....				1980	4290	1780	122	34	57	100	111	
18.....				1220	4560	1780	111	20	74	100	111	
19.....				980	4740	1700	82	27	82	122	111	
20.....				1320	4980	1662	65	20	65	100	111	
21.....				2240	5090	1860	65	20	65	100	111	
22.....			163	2720	5090	1780	91	20	65	163	111	
23.....			193	3430	5780	1400	57	20	65	254	100	
24.....			208	2240	6740	1250	65	20	65	193	100	
25.....			178	1980	6020	980	65	20	65	178	100	
26.....			310	2150	4830	890	91	20	65	178	100	
27.....			505	2190	4560	800	111	20	49	163	100	
28.....			370	2190	4650	690	178	20	49	148	100	
29.....			370	1740	4980	635	122	20	49	135	100	
30.....			350	2020	4380	580	148	20	49	122	100	
31.....			390		4560		148	20		135		
Mean			304	1570	4160	2400	209	43	42	145	106	
Run-off acre-feet.....			6020	93400	256000	143000	12900	2640	2500	8230	6320	

Unless otherwise noted, all discharges are in cubic feet per second.

SLATER FORK OF LITTLE SNAKE RIVER, AT BAXTER'S RANCH, NEAR SLATER

Location.—At Baxter's ranch, in sec. 22, T. 11 N., R. 89 W., 10 miles south of Slater.

Records Available.—May 6, 1912 to October 18, 1914.

Drainage Area.—80 square miles.

Gage.—Bristol automatic gage.

Channel.—Rough but permanent.

Discharge Measurements.—From bridge.

Diversions.—There are court decrees for diversions of 14 second-feet from Slater Creek, all below the station.

Co-operation.—The State engineer maintains the station in co-operation with the Elk River Irrigation & Construction Co.

DISCHARGE MEASUREMENTS ON SLATER CREEK AT BAXTER'S RANCH

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Apr. 10	W. P. Finley.....	2.00	135	Apr. 13	C. L. Chatfield.....	1.88	70
June 11	C. L. Chatfield.....	2.30	128				
June 24	W. P. Finley.....	1.23	25				
July 27	C. L. Chatfield.....	1.20	15				
Sept. 27	W. P. Finley.....	1.30	22				

FOURMILE CREEK AT RANGER STATION, NEAR BAGGS, WYO.

Location.—In Colorado, at forest ranger station near Ryan's ranch, in sec. 9, T. 10 N., R. 90 W., 20 miles southeast of Baggs, Wyo.

Records Available.—May 1, 1912 to November 7, 1914.

Drainage Area.—Approximately 4 square miles.

Gage.—Bristol automatic gage.

Channel.—Probably permanent.

Discharge Measurements.—Made from footbridge.

Co-operation.—The State engineer maintains the station in co-operation with the Elk River Irrigation & Construction Co.

DISCHARGE MEASUREMENTS ON FOURMILE CREEK AT RANGER STATION

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
May 28	Chatfield & Finley....	0.90	13.4	Apr. 16	C. L. Chatfield.....	1.00	20
June 23	W. P. Finley.....	0.60	2.97	June 10	C. L. Chatfield.....	0.95	24
July 26	C. L. Chatfield.....	0.50	1.60				
Sept. 26	W. P. Finley.....	0.40	2.37				

NORTH FORK OF WHITE RIVER AT BUFORD

Location.—At Genier's ranch, $1\frac{1}{2}$ miles above Buford, about sec. 3, T. 1 S., R. 91 W. No important tributary between the station and the mouth of South Fork. The gage and foot-bridge at Genier's ranch went out on May 27th, and was re-established on June 26th on the private road bridge at Buford P. O., $1\frac{1}{2}$ miles below.

Records Available.—May 24, 1910 to November 30, 1914. From July 18, 1903 to October 31, 1906, a gaging station was maintained by the United States Geological Survey just below Ute Creek, 5 miles above the present station. The records at the two points are very nearly comparable, as no important tributaries enter between the two points.

Drainage Area.—240 square miles.

Gage.—Vertical staff.

Channel.—Practically permanent.

Discharge Measurements.—Made from private road bridge.

Diversions.—There is a court decree for a diversion of 1.6 second-feet from the North Fork above the station, but none below. There are also decrees for diversions of 33 second-feet from tributaries entering above the station.

DISCHARGE MEASUREMENTS ON NORTH FORK OF WHITE RIVER AT
BUFORD

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 6	C. L. Chatfield.....		211*†	May 18	C. L. Chatfield.....	2.72	1068†
May 22	C. L. Chatfield.....	1.48	429†	June 26	C. L. Chatfield.....	1.92	906†
May 23	C. L. Chatfield.....	1.65	506†	Aug. 5	C. L. Chatfield.....	0.70	297†
July 23	C. L. Chatfield.....	1.12	310				
Oct. 20	C. L. Chatfield.....	0.55	186†				

*Ice conditions. †At Buford P. O.

(*) At Genier's Ranch.

Discharge of Slater Fork of Little Snake River at Baxter's Ranch for 1913.

Drainage Area, 80 Square Miles. Altitude, 7,000 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					305	99	17	*25	28	28		
2.....					305	65	20	*22	40	32		
3.....					276	73	20	22	25	28		
4.....					290	65	17	22	25	25		
5.....					336	57	*15	25	25	*20		
6.....					290	57	.13	25	22	*20		
7.....				106	220	82	13	28	20	*20		
8.....				99	208	150	15	28	25	*22		
9.....				82	208	161	15	28	22	*22		
10.....				73	248	172	20	22	17	*22		
11.....				73	276	172	22	22	20	*25		
12.....				73	234	172	22	25	22	*25		
13.....				65	220	172	*22	25	17	*25		
14.....				65	195	172	*22	28	20	28		
15.....				50	195	35	*22	28	22	25		
16.....				22	248	17	*22	28	22	28		
17.....				17	262	20	*20	25	25	32		
18.....				20	290	28	*20	25	20	40		
19.....				25	276	*28	*20	25	15	22		
20.....				106	276	*25	*20	25	17	28		
21.....				248	276	*22	20	28	20	28		
22.....				305	276	22	17	35	17	22		
23.....				336	276	22	.15	40	20	25		
24.....				320	276	20	13	32	20	28		
25.....				248	234	13	13	32	22	25		
26.....				220	220	20	17	35	25	25		
27.....				234	195	22	17	32	28	28		
28.....				262	182	*17	22	28	40	28		
29.....				290	172	11	28	35	32	28		
30.....				320	161	10	25	35	25	28		
31.....					150		28	25		32		
Mean.....				153	244	66.7	19.1	27.7	23.3	26.2		
Run-off acre-feet.....				7260	15000	3970	1170	1700	1390	1610		

Unless otherwise noted, all discharges are in cubic feet per second. Note.—*Estimated.

Discharge of Slater Fork of Little Snake River at Baxter's Ranch for 1914.

Drainage Area, 80 Square Miles. Altitude, 7,000 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1					234	571	118	28	17	17		
2					262	613	108	32	15	22		
3					290	571	118	25	13	32		
4					368	700	108	22	13	44		
5					384	613	118	20	13	28		
6					384	550	99	20	13	25		
7					470	550	82	20	13	28		
8					571	470	73	22	12	44		
9					634	434	65	22	12	50		
10					634	417	65	20	12	44		
11					634	434	57	17	13	35		
12					634	470	44	15	15	35		
13				82	634	470	40	15	15	44		
14				99	592	384	44	15	15	35		
15				161	592	352	44	15	20	65		
16				195	592	336	40	15	25	44		
17				150	592	320	40	13	22	40		
18				128	489	305	40	20	20	32		
19				99	613	305	32	20	15			
20				139	634	368	28	15	15			
21				234	634	290	28	15	20			
22				276	700	276	32	22	17			
23				305	745	248	32	20	15			
24				262	656	208	35	17	17			
25				234	571	195	28	15	17			
26				234	529	172	22	15	17			
27				220	529	161	20	20	15			
28				195	656	150	32	17	15			
29				208	634	139	28	17	15			
30				220	550	128	35	15	15			
31					571		28	13				
Mean				191	549	373	54	19	16	37		
Run-off acre-feet				6820	33800	22200	3320	1140	934	1320		

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Four Mile Creek at Ranger's Station, near Baggs,
Wyo., for 1913.

Drainage Area 4 (Approximated) Square Miles. Altitude, 7,800
Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					53	8.5	5.5	2.5	3	1.5	2	
2.....					40	8.5	3	3	3.5	1.5	2.5	
3.....					34	8.5	3.5	2.5	5.5	2.5	2.5	
4.....					34	11	2.5	2	4.5	2	2.5	
5.....					40	11	2.5	3	4.5	2.5	3	
6.....					46	11	3	3.5	4.5	1.5	2.5	
7.....					53	8.5	3	3	4.5	2	2	
8.....					53	7	2.5	3	4.5	2.5	2.5	
9.....					53	8.5	2.5	3	7	2.5		
10.....					60	8.5	3	3	5.5	2.5		
11.....					60	8.5	3	2.5	5.5	3		
12.....					53	8.5	3	3	5.5	3.5		
13.....					40	8.5	3	3	4.5	2.5		
14.....					34	7	3.5	3	5.5	2.5		
15.....					29	5.5	3.5	2.5	7	2.5		
16.....					29	3.5	3.5	2.5	7	2		
17.....				24	20	3.5	3.5	1.5	5.5	2.5		
18.....				34	17.2	3.5	4.5	1.5	7	2.5		
19.....				40	17.2	3.5	4.5	1.5	7	2		
20.....				34	13.5	2.5	3.5	1.2	5.5	1.5		
21.....				40	13.5	4.5	3.5	1.2	3	1.5		
22.....				34	11	3.5	3	1.2	3.5	1.5		
23.....				24	13.5	3.5	3.5	1.2	2.5	1.5		
24.....				24	17.2	3.5	4.5	1.2	1	2		
25.....				20	20	7	3.5	1.5	1	2		
26.....				29	17.2	7	3	1.5	2	1.2		
27.....				29	17.2	7	2.5	1.5	2	1.5		
28.....				53	13.5	5.5	2.5	2	1.5	2		
29.....				53	13.5	11	2.5	2	1.5	2		
30.....				53	11	24	2	3	2	2		
31.....					8.5		2	3		2		
Mean.....				35	30.2	74.3	3.2	2.3	4.2	2.1	2.4	
Run-off acre-feet.....				974	1860	442	197	141	250	129	39	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of Four Mile Creek at Ranger's Station, near Baggs,
Wyo., for 1914.

Drainage Area 4 (Approximated) Square Miles. Altitude, 7,800
Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					20	34	3	1.2	1.5	1.5	1.5	
2.....					17	40	3	1.5	1.5	1.2	1.5	
3.....					13.5	29	3	1.5	1.5	1.2	1.5	
4.....					13.5	40	3.5	1.5	1.5	1.5	1.2	
5.....					20	40	3	1.2	1.2	1.2	1.2	
6.....					29	34	2.5	1.2	1.2	1.2	1.5	
7.....				4.5	40	40	2.5	1.2	1.2	1.2	1.5	
8.....				4.5	53	34	2.5	1	1.2	1.5		
9.....				3.5	68	24	2.5	1	1.2	1.5		
10.....				3.5	85	17	3	1	1.2	1.5		
11.....				4.5	53	13.5	2.5	1	1.5	1.2		
12.....				4.5	40	17	1	1	1.2	1.5		
13.....				3.5	53	17	1	1	1.5	1.5		
14.....				5.5	60	13.5	1	1	1.2	1.5		
15.....				13.5	76	8.5	1	1	1.5	2		
16.....				20	76	8.5	0.5	1	2	2.5		
17.....				11	76	8.5	0.5	0.8	1.5	2.5		
18.....				8.5	76	7	0.8	1	1.5	2		
19.....				8.5	76	8.5	0.8	0.8	3	2		
20.....				17	68	8.5	0.8	1	1.2	1.5		
21.....				29	76	7	0.8	1	1	1.5		
22.....				34	76	5.5	0.8	1	1.2	2.5		
23.....				29	85	5.5	0.8	1	1.2	2.5		
24.....				20	68	4.5	0.8	1	1.5	2		
25.....				20	46	5.5	0.8	0.8	1.5	2		
26.....				20	40	5.5	1	0.8	1	1.5		
27.....				20	34	5.5	1	1	0.8	1.5		
28.....				20	40	4.5	1	1	0.8	1.5		
29.....				20	40	3.5	1	1	1	1.5		
30.....				29	40	3.5	1	1.2	1.2	2		
31.....					34		1.5	1.5		2		
Mean.....				15.4	51	16.4	1.6	1.1	1.4	1.7	1.4	
Run-off acre-feet.....				702	3160	978	97	66	80	103	20	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of North Fork of White River at Buford for 1913.
Drainage Area, 240 Square Miles. Altitude, 7,000 Feet Above Sea
Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					655	780	275	210	185	185	178	178
2.....					605	748	250	210	185	185	178	178
3.....					450	685	250	210	192	185	178	178
4.....					470	655	250	210	185	192	178	178
5.....					538	605	230	210	192	192	178	178
6.....					715	605	230	210	192	192	178	185
7.....					715	560	220	210	192	185	185	185
8.....					655	515	230	210	192	178	178	178
9.....					605	515	230	192	192	185	178	178
10.....					780	515	230	192	192	178	192	178
11.....				210	850	515	230	192	192	192	192	
12.....				210	850	492	210	192	185	201	192	
13.....				240	780	470	210	192	185	201	201	
14.....				250	685	430	210	192	192	192	192	
15.....				345	560	395	220	192	185	192	192	
16.....				378	492	430	220	192	185	192	192	
17.....				395	492	395	240	192	185	185	192	
18.....				412	582	395	275	192	192	178	192	
19.....				430	515	395	262	192	178	185	178	
20.....				430	515	395	300	192	178	192	178	
21.....				470	430	360	275	192	178	192	192	
22.....				395	395	330	275	192	178	185	178	
23.....				315	470	330	330	185	192	185	178	
24.....				300	560	330	330	185	192	178	178	
25.....				300	655	360	275	185	192	178	185	
26.....				300	630	330	275	185	192	178	185	
27.....				470	655	300	240	185	192	192	185	
28.....				560	655	300	230	185	185	178	178	
29.....				748	748	300	230	185	185	178	178	
30.....				685	850	275	210	185	185	178	178	
31.....					780		210	185		178		
Mean.....				392	624	457	247	195	188	186	190	179
Run-off acre-feet.....				15600	38400	27200	15200	12000	11200	11400	11300	3560

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of North Fork of White River at Buford for 1914.
Drainage Area, 240 Square Miles. Altitude, 7,000 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				178	360		760	342	280	222	235	
2.....				178	300		730	325	280	222	235	
3.....				178	378		640	325	280	222	235	
4.....				192	492		640	310	265	222	235	
5.....				201	492		760	310	250	250	235	
6.....				210	560		640	295	250	235	235	
7.....				192	655		585	295	235	235	235	
8.....			178	201	875		530	295	235	235	235	
9.....			178	192	1100		530	295	235	235	235	
10.....			178	192	1200		480	295	235	235	222	
11.....			172	192	1060		458	295	235	235	222	
12.....			166	192	935		458	280	235	235	222	
13.....			172	210	1030		458	280	235	235	222	
14.....			178	210	1100		435	265	250	235	222	
15.....			172	275	968		395	265	250	235	222	
16.....			172	300	968		395	265	265	235	222	
17.....			178	275	1160		395	265	250	235	222	
18.....			178	240	1130		395	265	250	235	222	
19.....			178	220	1030		395	265	235	235	222	
20.....			178	275	1200		378	265	235	235	222	
21.....			178	330	1240		360	265	235	235	222	
22.....			185	395	1350		360	265	235	265	222	
23.....			172	395	1900		360	265	235	265	222	
24.....			166	360	1720		342	265	235	235	210	
25.....			166	345	1390		342	265	235	235	198	
26.....			172	360	1350	895	342	325	222	235	198	
27.....			172	330	1310	895	342	280	222	235	198	
28.....			178	330		830	360	280	222	235	198	
29.....			172	330		830	360	280	222	235	198	
30.....			172	360		760	360	280	222	235	198	
31.....			172				360	280		235		
Mean.....			174	261	1010	702	463	285	242	236	221	
Run-off acre-feet.....			8300	15500	54000	8350	28500	17500	14400	14500	13100	

Unless otherwise noted, all discharges are in cubic feet per second.

WHITE RIVER AT MEEKER

Location.—At Reese's ranch, $3\frac{1}{2}$ miles east of Meeker, in sec. 24, T. 1 N., R. 93 W. Nearest tributary above is Curtis Creek; nearest below is Sulphur Creek. Station moved from Van Cleave's to Reese's ranch October 20, 1913.

Records Available.—May 7, 1910 to October 31, 1914. From April 12, 1904 to October 31, 1906, a station was maintained 2.5 miles below this point by the United States Geological Survey.

Drainage Area.—634 square miles.

Gage.—Automatic recording gage.

Channel.—Practically permanent.

Discharge Measurements.—Made from private road bridge.

Diversions.—There are court decrees for diversions of 186 second-feet from White River above the station and 59 second-feet from tributaries entering above. Below there are decrees for diversions of 198 second-feet from White River.

Note.—Station moved to get above the head of the Meeker Power Canal. Diversion started during winter of 1912-1913.

1913 records prior to October 20 corrected for the diversion. Average diversion about 90 second-feet.

DISCHARGE MEASUREMENTS ON WHITE RIVER AT MEEKER

Date 1913	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date 1914	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
Feb. 7	C. L. Chatfield.....		*363	May 16	C. L. Chatfield.....	2.12	1811
May 21	C. L. Chatfield.....	2.10	b1027	June 25	C. L. Chatfield.....	2.58	2191
May 24	C. L. Chatfield.....	2.32	†1306	Aug. 4	C. L. Chatfield.....	0.95	544
July 23	C. L. Chatfield.....	1.20	† 554				
Sept. 11	C. L. Chatfield.....	0.87	†370				
Oct. 21	C. L. Chatfield.....	0.78	†305				

*Ice cond. meas. 6 miles above Station.

†At Reese Ranch.

(b)At Van Cleave Ranch old Station.

SOUTH FORK OF WHITE RIVER NEAR BUFORD,

Location.—At Shepherd's ranch, 7 miles above Buford, about sec. 7, T. 2 S., R. 90 W. Nearest tributary a small creek that enters from the east just below the station.

Records Available.—July 25, 1903 to October 31, 1906, station maintained by the United States Geological Survey; June 1, 1910 to November 30, 1914.

Drainage Area.—148 square miles.

Gage.—Vertical staff.

Channel.—Fairly permanent.

Discharge Measurements.—Made from highway bridge during high water and by wading at ordinary stages.

Winter Flow.—Ice causes backwater and records are discontinued during the winter months.

Diversions.—There are no court decrees for diversions from the South Fork above the station, but below there is a decree for 5.4 second-feet. There is a decree for a diversion of 9.2 second-feet from tributaries entering above the station.

DISCHARGE MEASUREMENTS ON SOUTH FORK OF THE WHITE RIVER
NEAR BUFORD

Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.	Date	Hydrographer	Gage Ht. Feet	Discharge Sec. Ft.
1913				1914			
May 22	C. L. Chatfield.....	1.95	487	May 17	C. L. Chatfield.....	1.85	446
May 23	C. L. Chatfield.....	2.60	644	June 26	C. L. Chatfield.....	5.05	1336
May 24	C. L. Chatfield.....	3.00	804				
July 22	C. L. Chatfield.....	0.75	199				
Oct. 21	C. L. Chatfield.....	0.45	*166				

*From bridge at White-Bear Ranch 6 miles below Station.

Discharge of White River at Meeker for 1913.
Drainage Area, 634 Square Miles. Altitude, 6,182 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....					860	1830	700	395	395	370	272	
2.....					860	1830	670	395	420	370	272	
3.....					762	1700	640	370	370	395	250	
4.....					670	1580	640	370	395	395	250	
5.....					730	1540	640	395	370	395	250	
6.....					892	1430	610	370	395	395	272	
7.....					1060	1320	580	370	395	370	272	
8.....					995	1240	580	370	345	395	272	
9.....					995	1200	580	370	345	395	272	
10.....					1100	1200	610	370	395	370	250	
11.....					1240	1240	580	370	395	395	250	
12.....					1200	1170	580	345	395	395	250	
13.....				445	1240	1170	550	345	420	395	272	
14.....				495	1140	1100	522	345	445	370	295	
15.....				580	960	1060	550	345	420	370		
16.....				580	828	1030	550	345	420	370		
17.....				670	795	1060	550	322	395	370		
18.....				640	828	925	610	322	370	370		
19.....				700	1100	960	640	322	370	370		
20.....				730	1140	960	670	300	370	320		
21.....				795	1100	925	670	300	345	250		
22.....				730	1060	892	610	322	395	250		
23.....				610	1170	860	640	345	445	295		
24.....				522	1280	860	610	322	395	295		
25.....				495	1320	892	550	322	395	295		
26.....				470	1470	892	522	322	420	272		
27.....				522	1580	892	470	322	395	272		
28.....				700	1580	828	445	345	370	272		
29.....				828	1700	795	445	345	345	272		
30.....				960	2080	762	420	395	370	272		
31.....					1960		420	395		272		
Mean.....				637	1150	1140	576	351	390	342	264	
Run-off acre-feet.....				22700	70700	67800	35400	21600	23200	21000	7340	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of White River at Meeker for 1914.
Drainage Area, 634 Square Miles. Altitude, 6,182 Feet Above Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....						2740	1400	400	400	320		
2.....						2830	1400	400	360	400		
3.....						2830	1400	360	320	440		
4.....						2570	1220	360	320	480		
5.....						2570	1460	400	320	285		
6.....						2320	1160	400	320	320		
7.....						2090	1050	400	285	400		
8.....						1940	940	400	320	480		
9.....						1800	940	400	320	605		
10.....						1800	840	440	285	480		
11.....						1940	740	440	285	440		
12.....						2090	695	440	320	400		
13.....						2400	650	400	285	400		
14.....						2450	650	360	320	360		
15.....						2400	560	360	360	400		
16.....					1800	2320	560	285	400	360		
17.....					1800	2320	560	320	320	400		
18.....					1800	2400	480	400	320	360		
19.....					1730	2480	480	360	285	360		
20.....					1800	2740	480	360	250	360		
21.....					2090	2830	480	360	320	360		
22.....					2240	2570	480	360	285	400		
23.....					2830	2240	480	285	285	480		
24.....					3100	2240	440	320	285	400		
25.....					2740	2160	440	440	250	360		
26.....					2840	2090	440	480	250	320		
27.....					2400	1940	400	520	180	320		
28.....					2830	1660	440	360	120	320		
29.....					2920	1660	440	400	180	320		
30.....					2740	1530	440	360	250	320		
31.....					2660		440	400		320		
Mean.....					2370	2270	729	386	293	386		
Run-off acre-feet.....					75300	135000	44800	23700	17500	23700		

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of South Fork of White River near Buford for 1913.
Drainage Area, 148 Square Miles. Altitude 7,200 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....				216	260	1640	342	205	142	152	142	
2.....				216	260	1590	342	205	142	152	142	
3.....				216	260	1320	318	205	152	152	142	
4.....				216	272	1160	318	205	152	152	131	
5.....				216	283	959	306	194	152	152	131	
6.....				227	354	894	283	194	152	152	131	
7.....				238	483	831	260	184	142	152	130	
8.....				238	443	769	260	184	142	131	130	
9.....				260	443	769	260	184	142	131	110	
10.....				260	564	678	260	173	131	152	110	
11.....				260	620	620	260	173	131	152	130	
12.....				283	693	620	249	173	131	131	131	
13.....				283	784	592	249	173	131	131	142	
14.....				283	723	620	238	152	131	152	142	
15.....				294	693	606	238	152	131	142	131	
16.....				294	649	564	260	152	131	142	131	
17.....				238	524	537	260	152	131	131	131	
18.....				249	564	524	260	142	131	131	131	
19.....				249	564	510	260	131	131	131	131	
20.....				260	524	510	260	131	131	142	131	
21.....				249	510	496	260	131	131	142	131	
22.....				249	524	496	260	131	131	152	131	
23.....				260	620	470	260	131	131	152	131	
24.....				249	816	443	249	131	142	152	131	
25.....				227	831	443	249	131	142	152	131	
26.....				238	1150	417	238	131	152	142	131	
27.....				216	1270	417	238	131	142	142	142	
28.....				216	1200	392	238	131	131	142	142	
29.....				216	1420	366	216	131	131	142	142	
30.....				249	1640	366	216	131	131	142	142	
31.....					1640		205	131		142		
Mean.....				246	696	688	262	158	137	144	132	
Run-off acre-feet.....				14600	42800	40900	16100	9720	8150	8850	7890	

Unless otherwise noted, all discharges are in cubic feet per second.

Discharge of South Fork of White River near Buford for 1914.
Drainage Area, 148 Square Miles. Altitude 7,200 Feet Above
Sea Level.

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1.....			150	118	200	1555	915	260	180	160	140	
2.....			132	118	200	1610	885	260	180	190	140	
3.....			132	118	190	1680	840	240	170	200	140	
4.....			132	132	210	1520	810	230	160	220	140	
5.....			132	132	210	1450	795	220	160	220	140	
6.....			150	132	200	1470	705	220	160	240	140	
7.....			150	132	200	1280	630	200	160	240	140	
8.....			160	118	210	990	592	200	160	230	140	
9.....			132	118	280	840	505	200	160	230	125	
10.....			132	118	320	795	492	220	160	220	125	
11.....			118	118	370	900	468	210	160	220	125	
12.....			118	132	380	1290	442	200	160	210	125	
13.....			170	132	370	1700	418	190	160	200	125	
14.....			200	150	380	1780	405	180	160	200	125	
15.....			160	150	370	1730	380	180	170	180	125	
16.....			150	170	418	1660	360	180	180	180	125	
17.....			170	170	418	1590	360	180	180	180	125	
18.....			140	180	418	1660	350	180	160	180	125	
19.....			118	170	505	1730	340	180	160	160	140	
20.....			118	180	618	1840	330	180	170	160	140	
21.....			150	180	730	1870	320	180	180	180	140	
22.....			132	180	885	1710	300	180	160	180	140	
23.....			132	210	1020	1780	300	180	160	200	140	
24.....			118	200	1180	1700	290	180	160	180	140	
25.....			118	190	1060	1520	270	180	160	180	140	
26.....			118	200	1100	1420	260	190	160	180	140	
27.....			118	200	1160	1260	260	200	160	160	140	
28.....			118	200	1200	1180	290	190	140	160	140	
29.....			118	200	1180	1160	300	200	140	140	140	
30.....			118	190	1220	885	280	200	150	140	140	
31.....			118		1420		280	180		140		
Mean.....			136	148	601	1450	457	199	163	189	135	
Run-off acre-feet.....			8380	9400	36900	86300	28100	12200	9680	11600	8030	

Unless otherwise noted, all discharges are in cubic feet per second.

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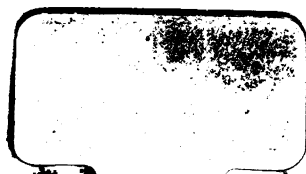
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